

Importantly, the Membership Interest Purchase Agreement contained a liability release. This specific provision was called the "Sellers' Release," and was signed by both Mr. Grunley and Mr. Walsh. The release identifies the "Sellers" as Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., the two entities owned by Mr. Grunley and Mr. Walsh, respectively. The release also refers to Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co. as the sole owners of the "Company," which is Grunley Walsh International. The "Buyer" is Robert Farah. The Sellers represented in the release language itself that the release is supported by consideration.

The Sellers' Release states, in pertinent part, the following:

Each Seller, on behalf of itself and each of its legal representatives, affiliates, successors and assigns, and each of such legal representatives', affiliates', successors' and assigns' Representatives (collectively, the "Related Parties"), hereby releases and forever discharges Buyer, the Company and each of their respective individual, joint or mutual, past, present and future Representatives, affiliates, stockholders, members, controlling persons, successors and assigns (individually, a "Releasee" and collectively, "Releasees"), from any and all claims, demands, Proceedings, causes of action, Orders, obligations, contracts, agreements, debts and liabilities whatsoever, whether known or unknown, suspected or unsuspected, both at law and in equity, which such Seller or any of its Related Parties now has, has ever had or may hereafter have against the respective Releasees arising at any time prior to the Closing or on account of or arising out of any matter, cause or event occurring at any time prior to the Closing, including, but not limited to, any rights to indemnification or reimbursements from the Company, whether pursuant to the Organizational Documents, contract or otherwise and whether or not relating to claims pending on, or asserted after, the Closing Date; provided however, that nothing contained herein shall operate to release any obligations of Buyer arising under the Agreement or the Ancillary Agreements, including the Closing

hereby sells, conveys, assigns, transfers, and delivers to [Grunley Walsh U.S.], and [Grunley Walsh U.S.] hereby purchases, accepts and takes from [Grunley Walsh International] all right, title and interest in and to all of the contracts and assets of [Grunley Walsh International] except for the Retained Property").

Letter Agreement dated November 6, 2007. Each Seller hereby represents and warrants that it has no knowledge of any right to indemnification from the Company as of the date of this Release, except as stated in the Closing Letter Agreement dated November 6, 2007.

Each Seller, on behalf of such Seller and each of such Sellers' Related Parties, hereby irrevocably covenants to refrain from, directly or indirectly, asserting any claim or demand, or commencing, instituting or causing to be commenced, any proceeding of any kind against any Releasee based upon any matter released hereby.

Sellers' Release, MEMBERSHIP INTEREST PURCHASE AGREEMENT (November 6, 2007).

Some terms in the Sellers' Release are defined in other areas of the Membership Interest Purchase Agreement. Specifically, "Representatives" is defined as follows: "Representative" means with respect to a particular Person, any director, officer, employee, agent, consultant, advisor, or other representative of such Person, including legal counsel, accountants, and financial advisors." "Person" means "any individual, corporation (including any non-profit corporation), general or limited partnership, limited liability company, joint venture, estate, trust, association, organization, labor union, or other entity or Governmental Body."⁸

iii. Procedural Posture

Grunley Walsh U.S. filed its initial Complaint against Mr. Raap and GWMS on May 6, 2008. On August 19, 2008, however, Grunley Walsh U.S. filed an Amended Complaint. This Amended Complaint asserted the following claims:

Count I: Federal Unfair Competition under 15 U.S.C. § 1125(a);

Count II: Federal Trademark Infringement under 15 U.S.C. § 1125(a);

Count III: Common Law Trademark Infringement;

⁸ These definitions are found in the "I. Definitions" section of the Membership Interest Purchase Agreement.

Count IV: Common Law Unfair Competition;

Count V: Breach of Duty of Loyalty and Usurpation of Corporate Opportunities;

Count VI: Common Law Fraud;

Count VII: Negligent Misrepresentation;

Count VIII: Unjust Enrichment; and

Count IX: Breach of Contract

On February 10, 2009, Grunley Walsh U.S. voluntarily dismissed Counts VI and VII with prejudice. Mr. Raap and GWMS responded to Grunley Walsh U.S.'s Amended Complaint by filing Counterclaims of their own. Specifically, Mr. Raap and GWMS asserted the following:

Counterclaim Count I: Tortious Interference with Contract

Counterclaim Count II: Tortious Interference with Business Expectations

Counterclaim Count III: Attorneys' Fees

Both sides moved for summary judgment in February 2009. As mentioned above, the Court's April 14, 2009 Order denied Grunley Walsh U.S.'s motion and granted Mr. Raap and GWMS' in part.

II. JURISDICTION AND VENUE

This Court has jurisdiction over the claims in this action under 28 U.S.C. § 1331 (federal question jurisdiction) and 28 U.S.C. § 1367 (supplemental jurisdiction). Furthermore, the parties agree that this Court has personal jurisdiction over the Defendants, and that venue in the Eastern District of Virginia is proper.

III. STANDARD OF REVIEW

As mentioned above, the Court issued its April 14, 2009 Order in response to summary judgment motions. Summary judgment should be granted where the evidence in the record “show[s] that there is no genuine issue as to any material fact and that the movant is entitled to a judgment as a matter of law.” Fed. R. Civ. P. 56(c); *see Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). As the Supreme Court has explained, a fact is “‘material’ only if it might affect the outcome of the suit.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute over an issue of material fact is “genuine” if “the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Id.* Finally, in making a summary judgment determination, the court must view the facts in the light most favorable to the nonmoving party. *Matsushita Elec. Indus. v. Zenith Radio*, 475 U.S. 574, 587-88 (1986).

IV. ANALYSIS

The Court will first address why the Sellers’ Release bars Grunley Walsh U.S. from filing claims against Mr. Raap and GWMS to the extent those claims arose from facts occurring before the November 6, 2007 closing date. The Court shall also address, in this section, why none of Grunley Walsh U.S.’s claims can be supported by facts occurring after November 6, 2007.

A. Whether the Sellers’ Release issue was Pled Properly in this Case

Grunley Walsh U.S. argues that Mr. Raap and GWMS waived their ability to rely on the Sellers’ Release because the “release” affirmative defense was not pled in the answer. *See* Fed. R. Civ. P. 8(c) (requiring a party to “affirmatively state any avoidance or affirmative defense, including . . . release” at the pleading stage). Grunley Walsh U.S. asserts that Mr. Raap and GWMS’s failure to properly plead the release defense prevented it from obtaining adequate

notice that the Sellers' Release would be at issue in this suit. *See* 5 Charles Alan Wright & Arthur R. Miller, *Federal Practice and Procedure* § 1274 (3d ed. 2004) ("an affirmative defense . . . will be held to be sufficient . . . as long as it gives the plaintiff fair notice of the nature of the defense.").

Indeed, Mr. Raap and GWMS did not specifically plead "release" as an affirmative defense in their answer and never sought to amend that answer. However, they did plead in their Sixth Affirmative Defense that "Plaintiff's common law tort claims are barred by contract." *See Virginia Impressions Prods. Co. v. SCM Corp.*, 448 F.2d 262, 265 (4th Cir. 1971) ("A release is just another contract in which the intent of the parties is to be derived from the face of the instrument viewed as a whole."). Mr. Raap and GWMS also pled in their Thirteenth Affirmative Defense that "[p]laintiff's claims . . . are barred by accord and satisfaction."⁹ The Court believes that these affirmative defenses pled by Mr. Raap and GWMS put Grunley Walsh U.S. on sufficient notice, especially under the lenient notice-pleading standards of the Federal Rules of Civil Procedure. *See* Fed. R. Civ. P. 8(e), (f) (providing that "[n]o technical forms of pleading or motions are required" and that "[a]ll pleadings shall be so construed as to do substantial justice"). Specifically, these defenses convey to Grunley Walsh U.S. that Mr. Raap and GWMS believed a contract existed that barred the claims filed in this suit. Critically, the contract that ended up having this effect, the Sellers' Release, was part of the Membership Interest Purchase Agreement, which was executed by Grunley Walsh U.S. itself and signed by Mr. Grunley and Mr. Walsh. This fact substantially strengthens the nexus between the two defenses asserted in

⁹ *See* BLACK'S LAW DICTIONARY 17 (8th ed. 2004) (defining "accord and satisfaction" as "[a]n agreement to substitute for an existing debt some alternative form of discharging that debt, coupled with the actual discharge of the debt by the substituted performance").

the answer, and Grunley Walsh U.S. knowing of the contract to which those defenses refer. Because the defenses pled in the answer adequately put Grunley Walsh U.S. on notice that the Sellers' Release could be at issue in this suit, the Court concludes that Mr. Raap and GWMS sufficiently pled the release issue in their answer.

Even if the Sellers' Release defense was not pled properly in the answer, the law still permits the Court to address this issue because of the subsequent developments in this case. "Generally, when a party fails to raise an affirmative defense in its answer, it waives the defense." *Vermont Mut. Ins. Co. v. Everett*, 875 F.Supp. 1181, 1189 (E.D. Va. 1995). "However, the majority of federal circuit courts have held that when a defendant raises an affirmative defense in a manner that does not result in unfair surprise to the other party, noncompliance with Rule 8(c) will not result in waiver of the affirmative defense." *Id.* (citing *Camarillo v. McCarthy*, 998 F.2d 638, 639 (9th Cir.1993)); *see also Holland v. Cardiff Coal Co.*, 991 F.Supp. 508, 515 (S.D. W. Va. 1997) (quoting *Allied Chemical Corp. v. Mackay*, 695 F.2d 854, 855-56 (5th Cir.1983)) (Where an affirmative defense "is raised in the trial court in a manner that does not result in unfair surprise . . . technical failure to comply precisely with Rule 8(c) is not fatal."); *Steinberg v. Columbia Pictures Indus., Inc.*, 663 F.Supp. 706, 715 (S.D.N.Y., 1987) (citing *Rivera v. Anaya*, 726 F.2d 564, 566 (9th Cir.1984)) ("Although Fed.R.Civ.P. 8(c) generally requires affirmative defenses to be pleaded, courts have been more lenient in the context of motions for summary judgment. '[A]bsent prejudice to the plaintiff, a defendant may raise an affirmative defense in a motion for summary judgment for the first time.'").

Indeed, the Fourth Circuit addressed a qualified immunity affirmative defense not filed in the answer where the plaintiff suffered no prejudice from the later filing and was provided with

an opportunity to brief the relevant issue before the appellate court. *Ridpath v. Bd. of Governors Marshall Univ.*, 447 F.3d 292, 305-306 (4th Cir. 2006). The Court in *Ridpath* explained that consideration of the untimely pled defense served the strong public policy of economizing the use of judicial resources and avoiding relitigation. *Id.* On the other hand, the Fourth Circuit declined to address a qualified immunity defense when the defense was not pled until the defendant's summary judgment reply brief. See *Noel v. Artson*, 297 Fed. Appx. 216, 219 (4th Cir. 2008) (unpublished). The Court in *Noel* reasoned that a defense pled so late in the process prejudiced the plaintiffs because they "had no chance to address the issue in their opposition to summary judgment." *Id.* Furthermore, the Court explained, "Considering an argument advanced for the first time in a reply brief . . . entails the risk of an improvident or ill-advised opinion" *Id.* (citing *McBride v. Merrel Dow & Pharms., Inc.*, 800 F.2d 1208, 1211 (D.C. Cir. 1986)).

Here, Grunley Walsh U.S. would not be prejudiced or unfairly surprised even if Defendants' answer failed to put it on adequate notice of the Sellers' Release issue. Specifically, Mr. Raap and GWMS took steps very early in the litigation that should have made Grunley Walsh U.S. aware that the Sellers' Release could be an issue in the suit. Indeed Mr. Raap and GWMS subpoenaed Mr. Farah near the beginning of the discovery period and requested that he produce all documents relating to his acquisition of Grunley Walsh International. This request clearly could have been conceived as covering the Membership Interest Purchase Agreement and Sellers' Release. Then, nearly a month before Mr. Raap and GWMS filed their brief in support of their motion for summary judgment, they submitted an exhibit list to this Court naming the Sellers' Release as an exhibit. This exhibit list was available to Grunley Walsh U.S. Finally, and most importantly, Mr. Raap and GWMS asserted their "Sellers' Release" defense in their brief in support of their motion for summary judgment. Grunley Walsh U.S. then replied in

detail to the Sellers' Release argument, dedicating over five pages to the matter in its opposition brief. For these reasons, the Court finds that even if the release defense was not pled properly in the answer, the manner in which the defense was raised and addressed by the parties in this case was not prejudicial to Grunley Walsh U.S.¹⁰

Because Mr. Raap and GWMS adequately pled the release issue in the answer, and since Grunley Walsh U.S. was not prejudiced or unfairly surprised by the Court's consideration of the release issue at this stage of the litigation, the Court shall permit Mr. Raap and GWMS to rely on the Sellers' Release in this case.

B. Contract Law Applied to the Sellers' Release¹¹

A valid contract requires "a bargain in which there is a manifestation of mutual assent to the exchange and a consideration." Restatement (Second) of Contracts § 17 (1979); *see e.g., Audio Visual Assocs., Inc. v. Sharp Elec. Corp.*, 210 F.3d 254, 258 (4th Cir. 2000). Here, Mr. Grunley and Mr. Walsh promised Mr. Farah, *inter alia*, that they would sell Mr. Farah an ownership interest in their Grunley Walsh entity and that they would surrender their right to bring claims against certain entities and individuals. In return for these promises, Mr. Farah paid money. For these reasons, the Sellers' Release is a valid, bargained for contract supported by consideration.

Next, a "fundamental goal of contract law is to uphold clearly ascertained and negotiated contract rights." *Wallace Hardware Co., Inc. v. Abrams*, 223 F.3d 382, 400 (6th Cir. 2000) (citing *Tractor & Farm Supply, Inc. v. Ford New Holland, Inc.*, 898 F.Supp. 1198, 1203 (W.D.

¹⁰ For these same reasons, the Court would have granted a request by Mr. Raap or GWMS to amend the answer if such a request was made.

¹¹ Pursuant to the Virginia choice of law provision contained in the final paragraph of the Sellers' Release, Virginia law applies to the following interpretation.

Ky.1995). Furthermore, "[t]he law favors and encourages the resolution of controversies by contracts of compromise and settlement rather than by litigation; and it is the policy of the law to uphold and enforce such contracts if they are fairly made and are not in contravention of some law or public policy." *West v. Liberty Mutual Ins. Co.*, 1994 WL 399140 at *2 (4th Cir. 1994) (unpublished opinion) (quoting *Riggle v. Allied Chem. Corp.*, 378 S.E.2d 282 (W. Va. 1989)). The Sellers' Release was an agreement between parties with bargained-for consideration designed to prevent future litigation. Therefore, public policy supports upholding this agreement.

In Virginia, "[w]here an agreement is complete on its face and is plain and unambiguous in its terms, the court is not at liberty to search for its meaning beyond the terms of the instrument itself. This is so because the writing is the repository of the final agreement of the parties." *Lerner v. Guldesky Co.*, 230 Va. 124, 132 (1985). Therefore, parol evidence cannot be admitted in Virginia to interpret the meanings of clear and unambiguous contract terms. Here, the Court finds that the terms of the Sellers' Release are clear and unambiguous. As a result, it will not consider parol evidence in interpreting this provision. Finally, because the terms of the Sellers' Release are clear and unambiguous, the court will construe these terms "according to their plain meaning." See *Bridgestone/Firestone v. Prince William Square*, 250 Va. 402, 407 (1995).

C. Interpretation of the Sellers' Release

The Sellers' Release states, in pertinent part, that

Each Seller, on behalf of itself and each of its . . . affiliates, successors and assigns . . . hereby releases and forever discharges Buyer, the Company and each of their respective . . . past, present and future Representatives, affiliates, stockholders, members, controlling persons, successors and assigns . . . from any and all

claims, demands, Proceedings, causes of action, Orders, obligations, contracts, agreements, debts and liabilities whatsoever, whether known or unknown . . . arising at any time prior to the Closing . . . or arising out of any matter, cause or event occurring at any time prior to the Closing

Sellers' Release, MEMBERSHIP INTEREST PURCHASE AGREEMENT (November 6, 2007) (emphasis added).

In order for this release to bar any claims in this suit, Grunley Walsh U.S. must qualify as a releasor under the following clause: "[e]ach Seller, on behalf of itself and each of its . . . affiliates, successors and assigns" Furthermore, Mr. Raap and GWMS must qualify as releasees. This would occur if Mr. Raap and GWMS were characterized as "past, present, [or] future Representatives [or] affiliates" of "the Company," which is defined by the Sellers' Release as Grunley Walsh International. If these parties are covered by the Sellers' Release in this manner, then it necessarily follows that Mr. Grunley and Mr. Walsh, through their individual corporations,¹² promised Mr. Farah that Grunley Walsh U.S. would release Mr. Raap and GWMS "from any and all claims" arising from facts occurring before the closing date of November 6, 2007.

i. Grunley Walsh U.S. as Releasor

In this case, Grunley Walsh U.S. qualifies as a releasor because it is an "affiliate" of Sellers Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co. The Sellers' Release does not define "affiliate." However, "[a]ffiliate" is a well-established term in the business context, and always denotes some significant degree of control between two entities." *Jermar, Inc. v. L.M. Commc'ns II of South Carolina, Inc.*, 181 F.3d 88, 1999 WL

¹² Those individual corporations are Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co.

381817 at *4 (4th Cir. 1999) (unpublished); *see e.g.*, BLACK'S LAW DICTIONARY 63 (8th ed. 2004) (defining "affiliate" as "[a] corporation that is related to another corporation by shareholdings or other means of control; a subsidiary, parent, or sibling corporation."). Usage of the term "affiliate" in Virginia accords with these control-based definitions. *See, e.g.*, VA. CODE § 3.2-3200 ("Affiliate" means any person or subsidiary thereof, who has, either directly or indirectly, actual or legal control over a distributor, whether by stock ownership or in any other manner."); VA. CODE § 13.1-729 ("Affiliate" means a person who directly or indirectly through one or more intermediaries controls, is controlled by, or is under common control with another person or is a senior executive officer thereof"). Nothing in the Sellers' Release or the Membership Interest Purchase Agreement convinces the Court that the application of a control-based definition of "affiliate" is improper.

Here, Mr. Grunley and Mr. Walsh used Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., respectively, to create Grunley Walsh U.S. *See Transfer Agreement*, Pl. Ex. 230 (January 1, 2007) ("the Member-Owners of [The Grunley Walsh, LLC], James V. Walsh Construction Co., LLC, and Kenneth M. Grunley Construction Co., LLC . . . have formed [Grunley Walsh U.S.] on December 15, 2006 for the purpose of performing construction contracting in the United States").¹³ Therefore, it is indisputable that "Sellers" Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., through Mr. Grunley and Mr. Walsh, owned and controlled Grunley Walsh U.S. This ownership and control serves as the basis for the Court's conclusion that Grunley Walsh U.S. is an "affiliate" of these Sellers. And because Grunley Walsh U.S. is an "affiliate" of the "Sellers," it qualifies as a releasor under the Sellers' Release.

¹³ As mentioned above, Mr. Grunley and Mr. Walsh created Grunley Walsh U.S. in anticipation of entering into the Membership Interest Purchase Agreement with Mr. Farah.

ii. GWMS and Mr. Raap as Releasees

Next, the Court must determine whether Mr. Raap and GWMS qualify as releasees under the Sellers' Release. First, GWMS qualifies as a releasee because it is a "past affiliate" of "the Company" Grunley Walsh International. This conclusion requires a careful tracking of the various Grunley Walsh entities involved in this suit. Mr. Grunley and Mr. Walsh formed Grunley Walsh Joint Venture in 1998 by merging Grunley Construction Co., Inc. and William V. Walsh Construction, Inc. This entity changed names two times while under the ownership of Mr. Grunley and Mr. Walsh: Grunley Walsh Joint Venture, LLC was changed to The Grunley Walsh, LLC in 2004, and then to Grunley Walsh International, LLC on December 15, 2006 in anticipation of entering into the Membership Interest Purchase Agreement. Mr. Grunley and Mr. Walsh maintained co-ownership of the Grunley Walsh entity until they resigned from Grunley Walsh International on November 6, 2007.¹⁴

Importantly, that Mr. Grunley and Mr. Walsh used various names to describe their Grunley Walsh entity is of no legal relevance in this matter. "The change of a corporation's name is not a change of the identity of a corporation and has no effect on the corporation's property, rights, or liabilities." *Alley v. Miramon*, 614 F.2d 1372, 1384 (5th Cir. 1980); *see also Wright-Caesar Tobacco Co. v. A. Hoen & Co.*, 54 S.E. 309, 311 (Va. 1906) (the Virginia Supreme Court did not permit a company to avoid liability by changing its name where the successor company was "but a continuation" of the first company); *Eng'g Assocs of New England, Inc. v. B&L Liquidating Corp.*, 345 A.2d 900, 903 (N.H. 1975) ("The fact that the

¹⁴ In addition to resigning as officers of Grunley Walsh International on November 6, 2007, Mr. Grunley and Mr. Walsh resigned their individual corporations, Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., respectively, from the membership of Grunley Walsh International. *See Resignation Letters*, Pl. Ex. 226, A153-A156 (November 6, 2007).

defendant has changed its corporate name does not relieve it of any liability it may have incurred under its contract with the plaintiff.”); 18A Am. Jur. 2d *Corporations* § 240 (2004); 18 C.J.S. *Corporations* § 140 (2007). Therefore, this Court views Grunley Walsh Joint Venture LLC, The Grunley Walsh LLC, and Grunley Walsh International LLC as one continuous corporate entity having the same corporate identity.¹⁵

This conclusion is critical in the present case. GWMS was formed in 2000, when the Grunley Walsh entity was operating under its Grunley Walsh Joint Venture name. Mr. Grunley and Mr. Walsh each owned 24.5% shares in GWMS until they sold those shares to Mr. Raap in 2002. As a result, between 2000 and 2002, it is indisputable that Mr. Grunley and Mr. Walsh had significant ownership in and control over GWMS, in addition to co-owning Grunley Walsh Joint Venture. Even more, GWMS and Grunley Walsh Joint Venture had a unique and close connection, since they both operated in the construction field and shared office space. The common ownership and close working connection between these two companies compel the Court to conclude that GWMS was, between 2000 and 2002, an affiliate of Grunley Walsh Joint Venture.¹⁶ It necessarily follows, then, that GWMS qualifies as a “past affiliate” of “the Company” Grunley Walsh International, since Grunley Walsh Joint Venture and Grunley Walsh

¹⁵ Worth noting is that the Court is not addressing the issue of whether changing the type of corporate *entity* has any legal effect (*e.g.*, changing from a limited liability corporation to a partnership). Instead, the Court is addressing the impact of a corporate name change only, where the type of corporate entity remains the same. Here, the Grunley Walsh entity’s limited liability corporation status remained constant while the entity changed names from Grunley Walsh Joint Venture, LLC to The Grunley Walsh, LLC, and then to Grunley Walsh International, LLC.

¹⁶ In reaching this conclusion, the Court considers the control-based definition of affiliate outlined above.

International are the same corporate entity. Because GWMS qualifies as a past affiliate of Grunley Walsh International, GWMS is a releasee under the Sellers' Release.¹⁷

Additionally, GWMS qualifies as an affiliate of Grunley Walsh International on other grounds. Between December 15, 2006, the date that Grunley Walsh International was formed, and May 30, 2007, the date Mr. Raap was fired, Mr. Raap served simultaneously as the owner of GWMS and President of Grunley Walsh International. Therefore, it is indisputable that a single individual possessed significant amounts of control over both companies during that span of time. It is this shared control that supports the conclusion that GWMS was a direct affiliate of Grunley Walsh International between December 15, 2006 and May 30, 2007. Therefore, GWMS qualifies as a releasee under the Sellers' Release on these grounds, as well.

Finally, Mr. Raap unquestionably qualifies as a "past Representative" of all three Grunley Walsh iterations that existed between 1998 and 2007, including Grunley Walsh International (i.e. "the Company").¹⁸ Specifically, Mr. Raap began working as President of Grunley Walsh Joint Venture in 1998 and was serving in this same capacity when Grunley Walsh International was formed on December 15, 2006.¹⁹ Mr. Raap continued working as President of Grunley Walsh International for over five months until he was fired on May 30, 2007. For these reasons, Mr. Raap is covered by the "past Representative" language and thus qualifies, individually, as a releasee under the Sellers' Release.

¹⁷ The Court believes that this result is legally unavoidable. Restricting the "past, present and future . . . affiliate[]" language to include only affiliates of Grunley Walsh International LLC and not Grunley Walsh Joint Venture LLC or The Grunley Walsh LLC would exalt form over substance and permit the Grunley Walsh entity to evade the legal consequences of its corporate actions through corporate name changing.

¹⁸ "Representative" is defined in the Membership Interest Purchase Agreement to mean "a particular Person, any director, officer, employee, agent, consultant, advisor, or other representative of such Person, including legal counsel, accountants and financial advisors."

¹⁹ See *Articles of Amendment of The Grunley Walsh, LLC*, Pl. Ex. 226 (December 15, 2006).

iii. Scope and Effect of the Sellers' Release on the Claims of this case.

In sum, Grunley Walsh U.S. qualifies as a releasor under the Sellers' Release, and Mr. Raap and GWMS qualify as releasees. In the Release, the releasors (defined in the agreement as "Related Parties") released and discharged the releasees "from any and all claims" arising from facts occurring before the closing date of November 6, 2007. The "any and all claims" language is extremely broad, and is subjected to only a minor qualification, which is that the release agreement does not release Mr. Farah and FJK Holdings ("the Buyer") from obligations arising under the Membership Interest Purchase Agreement itself. This qualification, however, has no impact in the present case because it only applies to the "Buyer" Mr. Farah and FJK Holdings, and not to GWMS or Mr. Raap.

Grunley Walsh U.S. argues that many of the acts committed by Mr. Raap were outside the scope of his employment with Grunley Walsh International, and that these acts are not covered by the Sellers' Release. The Court disagrees with Grunley Walsh U.S.'s argument. The Sellers Release contains no language supporting, or even hinting, that the Sellers Release should be restricted in this manner. Indeed, the only qualification in the extremely broad Sellers' Release is outlined in the previous paragraph and makes no mention of a scope of employment limitation. Because the only qualification in the plain language of the release has no impact on Mr. Raap or GWMS, and since the release broadly releases the parties from "any and all claims," the Court holds that Grunley Walsh U.S. released GWMS and Mr. Raap from the claims it filed in this suit, to the extent those claims arose from facts occurring on or before the closing date of November 6, 2007.

D. Claims arising from facts after November 6, 2007

Consistent with its holding in this Memorandum Opinion, the Court issued an Order on April 14, 2009 dismissing Grunley Walsh U.S.'s Counts I-V and VIII-IX to the extent that those claims arose from facts occurring on or before November 6, 2007.²⁰ In that Order, the Court instructed the parties to file written responses defining which, if any, of Counts I-V or VIII-IX were supported by facts arising after November 6, 2007.

Mr. Raap and GWMS's response argued that all of these counts were based on facts occurring on or before November 6, 2007. Grunley Walsh U.S. agreed with this conclusion as it pertains to Counts V, VIII, and IX. Therefore, summary judgment shall be granted in full on these three claims. However, Grunley Walsh U.S. presented facts relevant to Counts I-IV (the federal and state trademark and unfair competition claims) that occurred after November 6, 2007. Specifically, Grunley Walsh U.S. explained that third parties were confused *after* November 6, 2007 because of Mr. Raap and GWMS's infringing uses of the GRUNLEY WALSH mark that took place *before* November 6, 2007.

Even if this is true, Counts I-IV would not be able to survive summary judgment. In order for Grunley Walsh U.S. to succeed on its federal and state trademark and unfair competition claims, it must be able to support all claim elements with facts in the record arising after November 6, 2007. One essential element common to each trademark and unfair competition claim in this case is the following: the defendants must actually *use* the plaintiff's mark. *See, e.g., Utah Lighthouse Ministry v. Found. for Apologetic Info. and Research*, 527 F.3d 1045, 1050 (10th Cir. 2008) (federal trademark infringement and unfair competition claims brought under 15 U.S.C. § 1125(a) have "virtually identical elements." One such element is that

²⁰ Pursuant to Grunley Walsh U.S.'s Stipulation of Dismissal, the Court also dismissed Counts VI and VII in their entirety.

the defendants use the trademark in connection with goods or services.); *Louis Vuitton Malletier v. Haute Diggity Dog*, 507 F.3d 252, 259 (4th Cir. 2007) (to succeed on a federal trademark infringement claim, plaintiff must prove that defendant used a reproduction, counterfeit, copy, or colorable imitation of that mark in commerce without plaintiff's consent). *Int'l Income Props., Inc. v. Combined Props. Ltd. P'ship.*, 1987 WL 488607 at *1 (Va. Cir. Ct. 1987) (in order for a defendant to be liable for unfair competition with respect to a trade name, that defendant must "unfairly use[] the name or a simulation of it."); *Brittingham v. Jenkins*, 914 F.2d 447, 455 (4th Cir. 1990) (when analyzing a common law trademark infringement claim, the Court explained: "[a]s a general rule, the use of an appropriated mark without the permission of its owner . . . constitutes an infringement if the unauthorized use is likely to result or has resulted in confusion, mistake or deception on the part of the consumer.").

Here, as Grunley Walsh U.S. admits, none of the infringing uses that it accuses Mr. Raap and GWMS of committing occurred after November 6, 2007. Therefore, the "use" element common to the trademark and unfair competition claims in this case are not met. Accordingly, summary judgment shall be granted in full on the trademark and unfair competition claims (Counts I-IV).

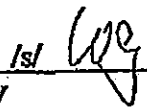
V. CONCLUSION

For the reasons stated in the Sellers' Release portion of this Memorandum Opinion (*i.e.*, Section IV. A-C), Plaintiff's Counts I-V and VIII-IX were dismissed on April 14, 2009 to the extent that these counts arose from facts occurring before November 6, 2007. For the reasons stated in Section IV.D, none of Plaintiff's claims can succeed based on the facts in the record arising after November 6, 2007. Therefore, Defendants' motion for summary judgment shall be

granted in full on Counts I-V and VIII-IX. Accordingly, these claims shall be dismissed in their entirety.

ENTERED this 6th day of May, 2009.

Alexandria, Virginia



Liam O'Grady
United States District Judge

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Wednesday, September 12, 2012 7:03 AM

To: McMahan, Alan (DHCD); Davis, Cindy (DHCD); Shelton, Bill (DHCD); Calhoun, Steve (DHCD)

Cc: Hodge, Vernon (DHCD); Leatherby, Eric (DHCD); Chris Thompson; Steve Rodgers

Subject: Re: Milari Madison appeal (Appeal No. 12-6)

Thank you for your help.

I am waiting for the affidavit from Eric Leatherby (pursuant to my FOIA request dated September 2, 2012) that enumerates the building code violations which I intend to include in the appeal.

I am waiting to know from DHCD what published rule sections, guidelines, or code section have been "applied" or relied upon in which the appeal is based on.

I also would like for the attached court case and discussion that explains VA law (citations of VA cases) with respect to a name change of a business (does not change the entity or its liabilities).

I may have additional documents to further supplement the appeal.

Alternatively, DHCD simply needs to issue the NOV and correction notices to IBS/Milton, Richard Rowe, Glenn Salsman (same principals), NTA and/or Mr. Tompos consistent with the plain language of the law.

Milari Madison

From: "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Rodgers, Emory (DHCD)" <Emory.Rodgers@dhcd.virginia.gov>; "Calhoun, Steve (DHCD)" <Steve.Calhoun@dhcd.virginia.gov>; "Leatherby, Eric (DHCD)" <Eric.L Leatherby@dhcd.virginia.gov>
Sent: Wednesday, September 12, 2012 8:09 AM
Subject: RE: Milari Madison appeal (Appeal No. 12-6)

Dear Ms. Madison:

FOIA requires only that we provide a copy of the public record in our possession. If you are seeking "certified" copies of records or affidavits for court purposes, that is not done through FOIA, it is done through the subpoena process.

Cindy L. Davis, C.B.O., State Building Codes Director
VA Dept. of Housing and Community Development
600 E. Main Street - Suite 1100
Richmond, VA 23219
PH: 804-371-7161
FAX: 804-371-7092
Cindy.Davis@dhcd.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Thursday, September 13, 2012 8:46 AM

To: Davis, Cindy (DHCD); Shelton, Bill (DHCD); McMahan, Alan (DHCD)

Cc: Rodgers, Emory (DHCD); Calhoun, Steve (DHCD); Leatherby, Eric (DHCD); Chris Thompson; Steve Rodgers

Subject: Made-up rules, FOIA VIOLATION by DHCD

Ms. Davis and Mr. Shelton,

It is common and ordinary for agencies and other government bodies to certify that a document is a true and accurate copy which is done by an affidavit. The "subpoena process" that you refer to below is a made-up law just as in your previous denial of records suggesting that they are "legal memorandum" and you therefore "cannot" provide them (which is simply false, misleading, and untrue).

I requested a copy of a document on September 2, 2012 to Mr. Leatherby which DHCD has utterly failed to produce in violation of FOIA. The document outlines the code violations described by Loudoun County.

I am again requesting this information.

Alternatively, I am requesting that DHCD issue the NOV's and correction notices to NTA, Mr. Tompos, Milton, Mr. Rowe, and Mr. Salsman.

Milari Madison

Sent: Thursday, September 13, 2012 11:38 AM

To: McMahan, Alan (DHCD)

Cc: Davis, Cindy (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Calhoun, Steve (DHCD); Leatherby, Eric (DHCD); Chris Thompson; Steve Rodgers

Subject: Documents for Madison Appeal and Certification affidavit, per Steve Jack, Asst. A.G.

Alan,

For the appeal, I am attaching another document that states that IBS only changed the name. This two page document was obtained from the PA State Corporation Comm. DHCD already had the document in its possession at the time they suggested IBS "went out of business" when in fact they only changed the name. DHCD new they only changed their name.

The second document is a second letter from Milton's attorney to the PA A.G. that states they are "working" with me to resolve the matter. It does not say that they have no obligation under the law as they changed their name or are "out of business".

Last, I spoke with Steve Jack. He suggested that DHCD can and should give me the certification, through the affidavit process, that the September 2, FOIA request is a "true and accurate" copy. As noted, I would like the document mailed to me and it should be included in the appeal.

Thank you for your help.

Milari Madison



COMMONWEALTH OF PENNSYLVANIA
OFFICE OF ATTORNEY GENERAL

BUREAU OF CONSUMER PROTECTION
Harrisburg Office
15th Floor, Strawberry Square
Harrisburg, Pennsylvania 17120
(717) 787-9707
March 27, 2012

Milari Madison
40153 Janney Street
Waterford, VA 20197

Re: Integrity Building Systems and Milton Home System
BCP-12-05-000656

Dear Ms. Madison:

The enclosed correspondence is related to the complaint you filed with the Bureau of Consumer Protection. Please provide us with a written response to this correspondence within twenty-one (21) days of the date of this letter so we may further evaluate your complaint.

If we do not hear from you in a reasonable amount of time, we will assume that you do not wish to pursue the matter further.

Thank you for your cooperation and attention to this matter.

Very truly yours,

Karen L. Wilkinson
Agent

m1
Enclosure
25C

6. Check one of the following:

☒ The amendment was adopted by the shareholders or members pursuant to 15 Pa.C.S. § 1914(a) and (b) or § 5914(a).

☐ The amendment was adopted by the board of directors pursuant to 15 Pa. C.S. § 1914(c) or § 5914(b).

7. Check, and if appropriate, complete one of the following:

☒ The amendment adopted by the corporation, set forth in full, is as follows

The name of the corporation shall be changed to Milton Home Systems, Inc.

☐ The amendment adopted by the corporation is set forth in full in Exhibit A attached hereto and made a part hereof.

8. Check if the amendment restates the Articles:

☐ The restated Articles of Incorporation supersede the original articles and all amendments thereto.

INTESTIMONY WHEREOF, the undersigned corporation has caused these Articles of Amendment to be signed by a duly authorized officer thereof this

16 day of November

2011

Integrity Building Systems, Inc.

Name of Corporation

[Signature]

Signature

Secretary

Title

Rudnitsky & Hackman, L.L.P.

Attorneys at Law

RECEIVED

MAR 16 2012

Bureau of Consumer Protection Admin.
PA Office of Attorney General

Courtyard Offices
1372 N. Susquehanna Trail, Suite 130
Selinsgrove, Pennsylvania 17870

Telephone (570) 743-2333

Fax (570) 743-2347

www.rudnitskyhackman.com

March 14, 2012

Karen L. Wilkinson, Agent
Commonwealth of Pennsylvania
Office of Attorney General
Bureau of Consumer Protection
15th Floor, Strawberry Square
Harrisburg, PA 17120

Re: Milari Madison
BCP-12-05-000656

Dear Ms. Wilkinson:

This office represents Milton Home Systems, Inc. Your letter dated March 5, 2012 was forwarded to my office for review.

Please be advised that I have been in contact with Ms. Milari Madison, as well as her husband, regarding the above-referenced consumer complaint. We are working with Milton Home Systems, Inc. to resolve the various issues of concern with Ms. Madison.

If you have any questions regarding this information, please contact me.

Very truly yours,

RUDNITSKY & HACKMAN, L.L.P.

BY:


KENNETH G. POTTER

Email to potter@rudnitskyhackman.com

cc: client

u:\Integrity\Madison\LT Atty General,

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Sunday, September 16, 2012 6:35 AM

To: McMahan, Alan (DHCD); Davis, Cindy (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Calhoun, Steve (DHCD); Leatherby, Eric (DHCD)

Subject: For Madison Appeal, Blank Approved Site Inspection Report

For the Appeal and other appropriate action, I have attached the blank site installation inspection report, **approved** by NTA. Please include the document in the appeal packet. Such an approval to a blank document is undoubtedly a violation of policy and procedure established and attested to by NTA in order to serve as a CAA as required under 13 VAC 5-91-180.

NTA was named in the complaint as a responsible party that caused failures to the code. DHCD should take such a failure to comply with the procedures set forth by the CAA seriously and proactively.

No such approved and COMPLETE document exists for my dwelling. Please also be clear, Milton staff assisted in the set of the units including "corrections".

From: "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
To: "huntermadison2002@yahoo.com" <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "chris.thompson@loudoun.gov" <chris.thompson@loudoun.gov>; "potter@rudnitskyhackman.com" <potter@rudnitskyhackman.com>
Cc: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>; "Rodgers, Emory (DHCD)" <Emory.Rodgers@dhcd.virginia.gov>
Sent: Monday, September 17, 2012 9:59 AM
Subject: Milari Madison Appeal to the Review Board (Appeal No. 12-6)

Dear Parties:

Upon review of the Milari Madison appeal (Appeal No. 12-6) to the State Building Code Review Board (Review Board), Review Board staff found it necessary to conduct an informal fact-finding conference on the matter prior to it being heard by the Review Board.

Accordingly, staff has scheduled an informal fact-finding conference on Tuesday, September 25, 2012 at 11:00 am. The meeting will take place at the Loudoun County Code Development Office (3rd floor) at 1503 Edwards Ferry Road, Leesburg, Virginia 20177.

The purpose of the informal fact-finding conference is for staff of the Review Board to discuss with the parties the issues being brought forth in the appeal to clarify those issues if necessary and to examine, based on past cases the Review Board has heard, whether the properness of any of the issues being brought forth needs to be questioned. The conference is also to examine the documents presented to assure, or question, the timeliness of the appeal both to the local board and to the Review Board and to identify other potential issues for consideration and to request additional documents if they appear to be necessary to clarify the appeal situation. The conference is not to take evidence from the parties concerning the merits of the appeal and staff of the Review Board does not have the authority to make or recommend findings or decisions in appeals. The hearing before the Board will be for that purpose. The conference is only to attempt to gain clarity on the appeal situation.

Following the conference, staff will draft an outline of the appeal situation and the parties will have an opportunity to review it and list corrections or objections to it. The parties will also have an opportunity to submit written arguments prior to the scheduling of the hearing before the Review Board.

Should you have any questions, please contact me.

Regards,

Alan McMahan, CBO
*Senior Construction Inspector II and staff to the
State Building Code Technical Review Board*
State Building Code Office
Division of Building & Fire Regulation
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, Virginia 23219
(804) 371-7175
(804) 371-7092 - fax
alan.mcmahan@dhcd.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Monday, September 17, 2012 11:27 AM

To: McMahan, Alan (DHCD); Davis, Cindy (DHCD); chris.thompson@loudoun.gov; potter@rudnitskyhackman.com; Calhoun, Steve (DHCD)

Cc: Hodge, Vernon (DHCD); Rodgers, Emory (DHCD); Gina Schaecher; Ralph Rinaldi

Subject: Re: Milari Madison Appeal to the Review Board (Appeal No. 12-6)

Alan/Steve,

I am still looking for the affidavit and certification that the e-mail sent to Eric Leatherby is a "true and accurate copy" enumerating the code violation, requested on September 2, 2012 (O.K. per your Asst. A.G., Steve Jack).

Second, I do not intend to speak for anyone else, but it may be fair and reasonable to let the local attorneys know that this matter is progressing. I have copied them on this just in case.

Thank you.

Milari Madison

From: Leatherby, Eric (DHCD)

Sent: Monday, September 17, 2012 3:40 PM

To: McMahan, Alan (DHCD)

Cc: Davis, Cindy (DHCD); Hodge, Vernon (DHCD); Rodgers, Emory (DHCD)

Subject:

Please notify NTA of the upcoming IFF and TRB hearings. Ms. Madison has made many references to them in her e-mails to us and in her formal complaint. She feels they are directly responsible for the problems in her home.

NTA, Inc.

Mr. Eric Tompos, P.E.

305 North Oakland Ave.

P.O. Box 490

Nappanee, IN 46550

Thank you.

From: Hodge, Vernon (DHCD)

Sent: Monday, September 17, 2012 4:21 PM

To: huntermadison2002@yahoo.com; Davis, Cindy (DHCD); chris.thompson@loudoun.gov; gschaecher@kasannlaw.com

Cc: Leatherby, Eric (DHCD); McMahan, Alan (DHCD)

Subject: FW: (Parties in the Madison Appeal)

Dear Parties:

Below is correspondence from Eric Leatherby, of the Va. Dept. of Housing and Community Development's industrialized building program, to the Review Board staff, requesting that NTA, Inc. (a compliance assurance agency under Virginia's industrialized building program) be notified of the proceedings in the Madison appeal to the Review Board.

After review of the documents we have to date in the matter, Review Board staff does not consider NTA a party to the appeal. The parties are Ms. Madison, Ms. Davis (DHCD's industrialized building program administrator), Milton Home Systems, Inc. and the Loudoun County building department. Attached is a copy of the informal fact-finding conference order which was sent to the parties.

Should the informal fact-finding conference result in a change in perspective of how NTA, Inc. fits into this situation, then staff may decide to include it as a party. Should others notify NTA, Inc. of the informal fact-finding conference and if they attend, then we will address their involvement at that time.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison <huntermadison2002@yahoo.com>
To: "potter@rudnitskyhackman.com" <potter@rudnitskyhackman.com>
Cc: David Tompos <tompos@ntainc.com>
Sent: Friday, February 17, 2012 9:56 AM
Subject: Madison/Milton Settlement

Dear Mr. Potter,

For the purposes of settlement discussions only, I thought it might be helpful to provide you with a cursory overview to share with your client. As you are aware, we have a phone call set for Monday at 11:00.

At this time, I cannot obtain an occupancy permit. The estimate to correct the items related to the three stair/code violations has been provided to Dick Rowe by a licensed VA contractor. It is my understanding that Mr. Rowe and Mr. Tompos spoke with the contractor/county and that an "approval" to the plan has been tentatively agreed to by the county. By me agreeing to the approved stair change, is a significant concession in that it diminishes the functionality and appearance of the second floor going to the third floor greatly. The altered plan is not what I agreed to and paid for, however, is acceptable to me for the purposes of settlement only. The third floor was planned as integral space for my house, family, and the value of the house. The presentation as to how to access the space is very important.

Due to water damage and other problems, the house has visible mold. The ceilings in the second floor are heavily cracked and buckling. The sheet rock needs to be replaced and the upstairs needs to be repainted. The floors throughout the house are uneven. Nearly all walls are neither square or straight. The lopsided nature poses difficulties in finishing the house in that the mistakes cannot be simply covered up and fixed cosmetically. Buckled floors lead to buckled molding. I have already spent over \$100,000 fixing problems. The house cost me approximately \$254,000 as purchased from Integrity. I was told that I would be responsible to repair the marriage walls, which was "no big deal" and attach the electric boxes which should take an electrician "a few hours". The third party inspection agency, NTA, stated that the electric was a 200 amp service. It is a 400 amp services and cost me \$12,000 to get it almost working. I still do not have electrical sign off from the county.

The county's approval of this project was a result of a legal settlement and the house was required to be built in accordance with the specifications as stipulated to with the county as the house is in an historic district. Some of the windows were framed out and set to the wrong size by Integrity workers. The overhangs are incorrect as built out by Integrity staff. The overhang build outs were/are lopsided and proved necessary as there were large gaps and misalignment between the boxes.

I am sure that you realize that no one wants a defective house that is shoddy. The metal roof is lumpy as the roof trusses have gaps in them and are not tight or level. All of these problems can be fixed but at what cost? Accepting the many problems "as is" is worth what? I know, for example, the house has not been bolted in the basement and the dormers were not bolted to the roof. I am very concerned that other problems will present themselves too as a result of manufacturing, building, and performance defects.

Thank you for any efforts to settle this regrettable and unfortunate matter. I look forward to speaking with you on Monday at 11:00.

Milari Madison

VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Milari Madison
Appeal No. 12-6

INFORMAL FACT-FINDING CONFERENCE ORDER

Under the authority vested in Article 2 (36-108 et seq.) of Chapter 6 of Title 36 of the Code of Virginia, the Review Board hereby orders an informal fact-finding conference pursuant to § 2.2-4019 of the Code of Virginia for the above-referenced appeal. Notwithstanding the above, the conference may be waived if agreed to by all parties.

Staff of the Office of the Review Board shall conduct the proceedings for the purpose of clarification of the facts and issues for resolution in the appeal and the establishment of pertinent documents to constitute the record.

By signature below, the Secretary attests that the Review Board, by standing motion, so orders:

VERNON HODGE / Alan W. McMahon, staff
Secretary, State Technical Review Board

Date/Time of Conference: Tuesday, September 25, 2012; 11:00 am

Place of Conference: Loudoun County Code Development Office
1503 Edwards Ferry Road, Leesburg, Va. 20177

Notify: Milari Madison (certified mail/reg. mail)
Cindy Davis (certified mail/reg. mail)
Chris Thompson (certified mail/reg. mail)
Richard R. Rowe (certified mail/reg. mail)
Gina L. Schaecher, Esq. (reg. mail)

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Monday, September 17, 2012 8:19 PM
To: Hodge, Vernon (DHCD); Davis, Cindy (DHCD); chris.thompson@loudoun.gov; gschaecher@kasannlaw.com; Ralph Rinaldi; Shelton, Bill (DHCD); Rodgers, Emory (DHCD)
Cc: Leatherby, Eric (DHCD); McMahan, Alan (DHCD); Calhoun, Steve (DHCD)
Subject: Re: (Parties in the Madison Appeal)

First, the appeal form specifically includes the IBSR which includes CAAs.

Under 13 VAC 5-91-70, Appeals under the IBSR are brought before the TRB, including NTA, Inc. and the failure for DHCD to issue any requested NOV and/or to require corrections to the units as NTA Inc. states they will in the documents, see 13 VAC 5-91-180 and their packet to become a CAA. NTA is DHCD's regulant.

It was intended that NTA, Inc. be a named party in the complaint as they are a regulant of DHCD's. I certainly requested many times, that the appropriate action be taken, with respect to "persons" and NTA, Inc., and was also advised that I did not need to complete a separate complaint form but to include them in the complaint against Milton/IBS. It becomes even more unusual that DHCD refers to a communication that DHCD had with NTA and that NTA stated they were unfamiliar with "Milton"--- as if that somehow negates Milton's responsibilities under the law because NTA was "unfamiliar" with Milton. (Hey, Mr. Fox, how are those chickens doing? What, no chickens? Oh, I guess, I didn't need to ask.)

13 VAC 5-91-10. Definitions. "Compliance assurance agency" means an architect or professional engineer registered in Virginia, or an organization, **determined by DHCD** to be specially qualified by reason of facilities, personnel, experience, and demonstrated reliability, to investigate, test and evaluate industrialized buildings; to list such buildings complying with standards at least equal to this chapter; to provide adequate follow-up services at the point of manufacture to ensure that production units are in full compliance; and to provide a label as evidence of compliance on each manufactured section or module.

13 VAC 5-91-60. Notice of violation.

In accordance with § 36-82 of the Code of Virginia, whenever the administrator shall find any violation of this chapter, he shall order the person responsible therefor to bring the building into compliance within a reasonable time, to be fixed in the order.

13 VAC 5-91-90. Penalty for violation.

In accordance with § 36-83 of the Code of Virginia, any person, firm or corporation violating any provisions of this chapter shall be considered guilty of a Class 1 misdemeanor and, upon conviction, shall be fined not more than \$1,000.

13 VAC 5-91-100. Duties and responsibilities of building officials in the installation or erection of a registered industrialized building.

A. All building officials are authorized by § 36-81 of the Code of Virginia to enforce the provisions of this chapter and

shall be responsible for and authorized to do the following.

1. Verify through inspection that the registered industrialized building displays the required state registration seal and
the proper label of the compliance assurance agency.

The labels are improperly affixed as the units do not meet code and the data plate is incorrect erroneously certified by NTA.

13 VAC 5-91-180. Compliance assurance agencies.

Application may be made to the SBCAO for acceptance as a compliance assurance agency. Application shall be made

under oath and shall be accompanied by information and evidence that is adequate for the SBCAO to determine whether the applicant is **specially qualified by reason of facilities, personnel, experience and demonstrated reliability to investigate, test and evaluate industrialized buildings for compliance with this chapter, and to provide adequate follow-up and compliance assurance services at the point of manufacture.**

13 VAC 5-91-200. Information required by the administrator.

5. General description of procedures and facilities to be used in proposed services, including evaluation of the model,
factory follow-up, quality assurance, labeling of production buildings, and specific information to be furnished on
or with labels.

6. Procedures to deal with any defective buildings resulting from oversight.

Required under 13 VAC 5-91-200, section 6 (procedures to deal with defects), based on NTA Inc's materials received via FOIA, NTA states that "All complaints by... parties are fully resolved" (5-1 page 12 of 14). Further, @ 5-3 page 12 of 14, NTA states "Corrective action for non-conforming work is to be performed!"

13 VAC 5-91-250. Industrialized buildings eligible for registration.

Any industrialized building must meet all of the following requirements to be registered and eligible for a Virginia
registration seal:

1. The design of the building has been found by a compliance assurance agency to be in full compliance with this
chapter. Approved designs shall be evidenced by the stamp and date of approval on each design sheet by the
compliance assurance agency.
2. The compliance assurance agency has conducted any necessary testing and evaluation of the building and
its
component parts.
3. The compliance assurance agency has provided the required inspections and other quality assurance follow-
up
services at the point of manufacture to assure the building complies with this chapter.

4. The building contains the appropriate evidence of such compliance through a label permanently affixed by the compliance assurance agency.

~~The units fail to meet code.~~

13 VAC 5-91-270. Manufacturer's installation instructions and responsibilities of installers.

A. The manufacturer of each industrialized building shall provide specifications or instructions, or both, with each building for handling, installing or erecting the building. Such instructions may be included as part of the label from the compliance assurance agency or may be furnished separately by the manufacturer of the building. The manufacturer shall not be required to provide the foundation and anchoring equipment for the industrialized building.

~~The approved "Site Inspection Report" by N.T.A. Inc. was blank as attached.~~

Milari Madison

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: "huntermadison2002@yahoo.com" <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "chris.thompson@loudoun.gov" <chris.thompson@loudoun.gov>; "gschaecher@kasannlaw.com" <gschaecher@kasannlaw.com>
Cc: "Leatherby, Eric (DHCD)" <Eric.Leachery@dhcd.virginia.gov>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
Sent: Monday, September 17, 2012 4:20 PM
Subject: FW: (Parties in the Madison Appeal)

Dear Parties:

Below is correspondence from Eric Leatherby, of the Va. Dept. of Housing and Community Development's industrialized building program, to the Review Board staff, requesting that NTA, Inc. (a compliance assurance agency under Virginia's industrialized building program) be notified of the proceedings in the Madison appeal to the Review Board.

After review of the documents we have to date in the matter, Review Board staff does not consider NTA a party to the appeal. The parties are Ms. Madison, Ms. Davis (DHCD's industrialized building program administrator), Milton Home Systems, Inc. and the Loudoun County building department. Attached is a copy of the informal fact-finding conference order which was sent to the parties.

Should the informal fact-finding conference result in a change in perspective of how NTA, Inc. fits into this situation, then staff may decide to include it as a party. Should others notify NTA, Inc. of the informal fact-finding conference and if they attend, then we will address their involvement at that time.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Tuesday, September 18, 2012 6:00 AM

To: Leatherby, Eric (DHCD); McMahan, Alan (DHCD); Calhoun, Steve (DHCD); Hodge, Vernon (DHCD); Davis, Cindy (DHCD); "chris.thompson@loudoun.gov"; "gschaecher@kasannlaw.com"; Ralph Rinaldi; Shelton, Bill (DHCD); Rodgers, Emory (DHCD)

Subject: NTA, Inc. should be a party to the appeal - More from 9/17/12

The attached document of the Madison Stair Trimmer is the "plan" the Milton staff/crew (unlicensed) had in hand when I inadvertently found them in my house, after they demolished the wall going from the second floor to the third floor. By demolishing the wall, without written permission from me or Loudoun County, they caused additional dangerous conditions (violations to the USBC). They left hot dangling electric wires from the ceiling and unguarded drops/opening to the various stairwells, as well as piles of construction debris. I immediately asked them to see the plan, and explained why it would not work (setting apart the functionality of the design and use of the space). The Milton staff agreed it would NOT work, called their boss, and abandoned the project. NTA, Inc. ALSO should have been involved with the "approval" of the changes to the plan, a "corrective" measure outlined in 13 VAC 5-91-200 of the IBSR. I repeatedly contacted NTA, Inc and they knew about the problems.

It should be noted that the chimney Milton built/set on-site caused a deviation from the plan and failed to meet code. A second contractor had to come in to fix the chute to properly accommodate the pipes per the mfrs. specs.

Milari Madison

FROM THE DESK OF:

Page _____ of _____

Job No. _____

PATRICK M. OTOOLE

11559 SPLIT OAK DRIVE GRANGER, IN 46530 ~ (574) 247-1726

DATE 8/25/11 REV. _____

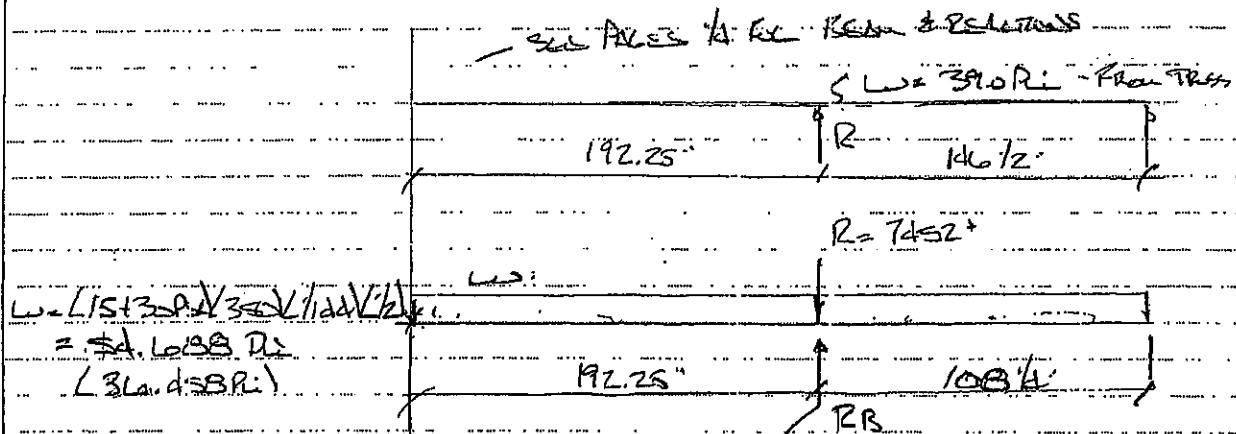
FOR INTEGRITY BUILDING SYSTEMS BY PMO

SUBJECT MADISON (C484709-2) - Airt. Columns

REFERENCE _____

Columns - BETWEEN LIVING RM / FOYER

Beam (2) - $1\frac{1}{2} \times 9\frac{1}{4}$ LVL @ FLOOR: (1) - $7\frac{1}{4}$ @ (1) - 2x8 R/L HALF IN CEILING



Per Column:

$R = 109675+$ - SEE PAGES 2 & 3

TOTAL = $109675 + 7452 = 117127+$

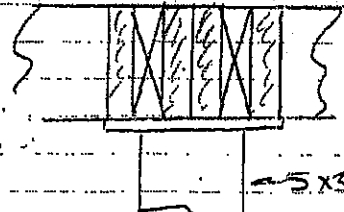
Ceiling Beam $7\frac{1}{4}$ LVL @ 2x8 - FROM JEFF GUELLERIN

Ceiling Att. = 108

Ceiling HSS 5x3 @ $1\frac{1}{2}$ ALTHOUGH $29' = 85.9' / 1.67 = 51.4' > 18.4'$

Beamings: 3 LVL @ 2x8

$F_{CL} = 755 \text{ PL @ LVL}$
 425 PL @ C 2x8



$F_{CL} = \frac{1}{2}(755) + \frac{1}{2}(425)$
 $= 590 \text{ PL}$

Actual = $\frac{117127}{3.5(9)} = 585 \text{ PL}$

FASTENING: Beam: ASSUMED (4) - $7\frac{1}{4}$ LVL - TOTAL

$L_{MAX} \text{ SIDE} = \frac{117127}{\frac{1}{3} \times \frac{1}{2}} = 3070'$ GIVES WTRAIL

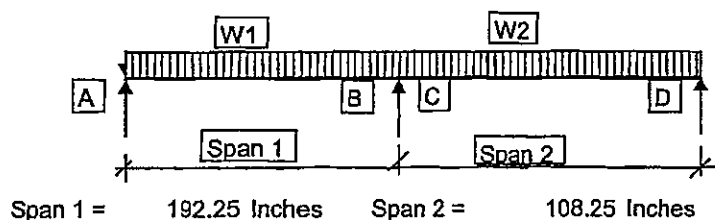
$100 \text{ PL} (7.2) / 4 = 3070 \times L = 7\frac{1}{4} = 12'$

$L_{MAX} \text{ MAIN} = \frac{3070}{0.9(1.15)} = 29.9' \approx 30'$ USE 15' EFFECTIVE DIST TO GUT
USE PAGES 2 & 3 - LENGTH = $2 + 6.5 + 2 = 10'$

1630

Floor & Ceiling Beam on The Madison Home (C484709-2) - *Reactions*

Design as two span beam



(1) General Information:

Tributary to beam = 350 inches
 Roof Loading:
 Reaction at flip beam = 0 Lbs. W = 0.00 Pli
 Adjusted dead load reaction = Lbs. Wdl = 0.00 Pli
 Span 1? Yes Span 2? y
 Second floor loading:
 Dead load = 15 Psf Wdl = 18.23 Pli
 Live load = 30 Psf W = 54.69 Pli
 Span 1? No Span 2? No
 Main floor loading:
 Dead load = Psf Wdl = 0.00 Pli
 Live load = Psf W = 0.00 Pli
 Span 1? No Span 2? No
 Wall loading = 0 Plf = 0.00 Pli
 W1 = 54.69 Pli W2 = 54.69 Pli

Beam: 1.5 x 9 1/4" LVL (E2.0, Fb = 2750 Psi E = 2000000 Psi
 Number of Pls = 4 Fv = 250 Psi
 Width = 1.50 inches
 Depth = 9.25 inches Ix = 395.73 in. ^ 4
 Duration Factor = 1.00 Sx = 85.56 in. ^ 3
 Depth Factor = 1.02
 Repetitive Member = 1.00

2) Bending Based on Moment Distribution:

Stiff. A = Stiff. B = .75 / Span = 0.0039 Distribution Factors:
 Stiffness C = Stiff. D = 1 / Span = 0.0069 At A = 0.000
 At B = Stiff. B / (Stiff. B + Stiff. C) = 0.360
 At C = Stiff. C / (Stiff. B + Stiff. C) = 0.640
 At D = 0.000

Case 1: All spans fully loaded:

W1 = 54.69 Pli W2 = 54.69 Pli
 Fixed End Moments (ccw +; cw -; up +; down -):
 FEM A = W1 x Span1 ^ 2 / (12 x 1000) = 168437.8 In. - Lbs.
 FEM B = -W1 x Span1 ^ 2 / (12 x 1000) = -168437.8 In. - Lbs.
 FEM C = W2 x Span2 ^ 2 / (12 x 1000) = 53402.6 In. - Lbs.
 FEM D = -W2 x Span2 ^ 2 / (12 x 1000) = -53402.6 In. - Lbs.

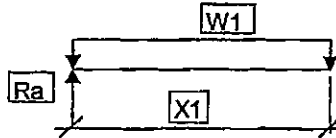
Bending cont.

	A	B	C	D
Dist.:		-0.360	-0.640	
FEM:	168437.8	-168437.8	53402.6	-53402.6
Adjust. =	-168437.8	-84218.9	26701.3	53402.6
1 st. distr.	0.0	62159.2	110393.6	0.0
Moments (In. - Lbs.) =		-190497.5	190497.5	0.0

Floor & Ceiling Beam on The Madison Home (C484709-2) Cont.

Max. Moments:

Span 1:



$$Rb = (W1 \times \text{Span1}^2 / 2 - Mb) / \text{Span1} =$$

6247.7 Lbs.

$$Ra = (W1 \times \text{Span1}^2 / 2 + Mb) / \text{Span1} =$$

4266.0 Lbs.

$$\text{Distance to moment} = X1 = Ra / W1 =$$

78.01 Inches

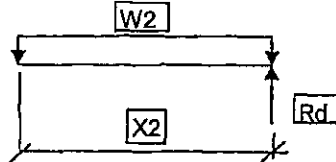
$$M = Ra \times (X1) - W1 \times \text{Span1}^2 / 2 =$$

166385 In. - Lbs.

$$M \text{ max} =$$

190497 In. - Lbs.

Span 2:



$$Rc = (W2 \times \text{Span2}^2 / 2 + Mc) / \text{Span3} =$$

4719.8 Lbs.

$$Rd = (W2 \times \text{Span2}^2 / 2 - Mc) / \text{Span2} =$$

1200.2 Lbs.

$$X2 = Rd / W2 =$$

21.95 Inches

$$M = Rd \times (X2) - W2 \times (X2)^2 / 2 =$$

13169 In. - Lbs.

$$M \text{ max} =$$

190497 In. - Lbs.

$$\text{Maximum Moment} = \underline{\underline{190497.5 \text{ In. - Lbs.}}}$$

2) Bending:

$$Sx = 85.56 \text{ In.}^3$$

$$Fb = 2816.6 \text{ Psi}$$

$$fb = 2226.4 \text{ Psi} \quad \text{O.K.}$$

3) Deflection:

Use Deflection $\sim .0092 \times w \times L^4 / (EI)$; Worst Case 2 span loaded

$$\text{Deflection} = 0.868 \text{ In.} = L / 221$$

$$\text{Status: O.K.}$$

4) Shear:

V = Max reaction from above:

$$V = 6247.7 \text{ Lbs.}$$

$$\text{Shear Stress, } fv = 169 \text{ Psi}$$

$$\text{Allowable, } Fv = 250 \text{ Psi} \quad \text{O.K.}$$

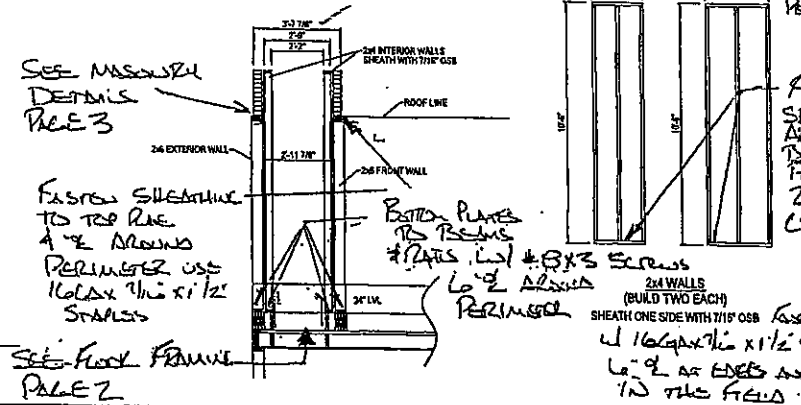
5) Reactions at supports:

$$\text{Reaction at each end} = \text{Max reaction at a or d} =$$

4266.0 Lbs.

$$\text{Reaction at center support} = Rb + Rc =$$

10967.5 Lbs. \leftarrow



Integrity Building Systems, Inc.	DEALER: CONVENIENT INSTALLATION	DATE: 5/24/10	MODEL: CUSTOM 2-STORY	CONTROL NUMBER C-484709-2	SUB-SE
	CUSTOMER: MADISON	DRAWN BY: CDK	Scale: 1/8" = 1'-0"		

TRUSS BOTTOM CHORD & 3-2x10'S HANGERS FOR RESURFACING

3-2x10'S NO. 2 S.F.
HANGERS SIMPSON LUS 213'S AT BEAM END

ADDED 4-2x10'S NO. 2 S.F.

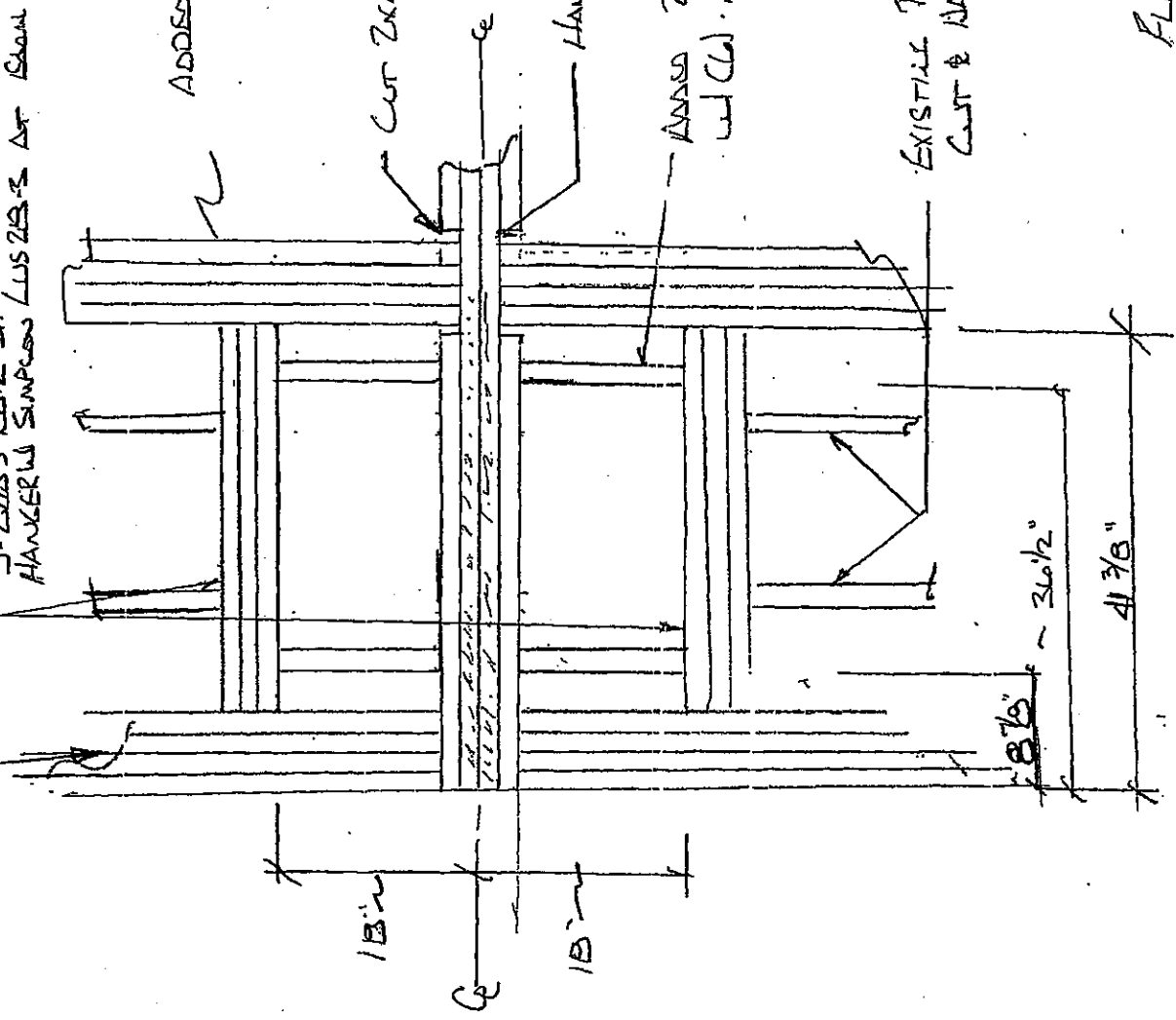
CUT 2x10 OUT FOR HANGER

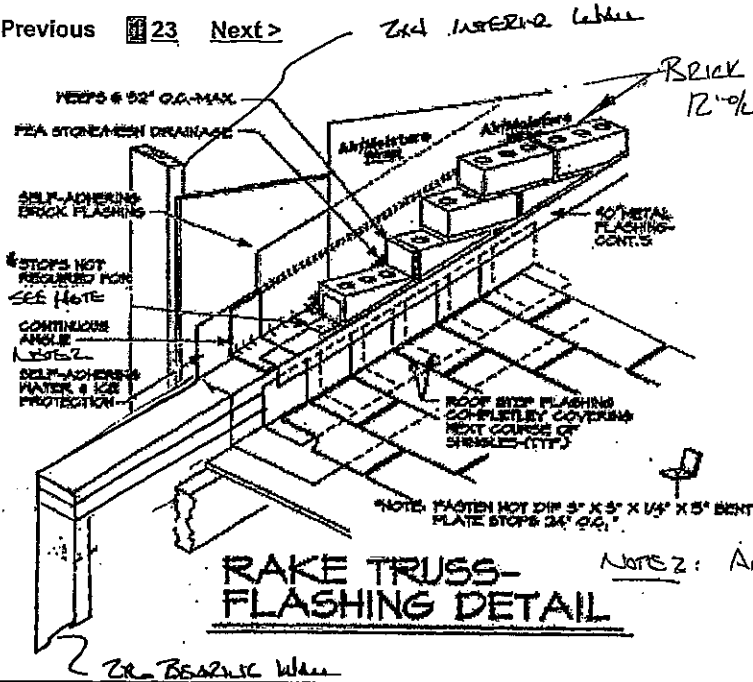
HANGER - SIMPSON HANGERS

ADDED 2x10'S - RANDOM LENGTH ENDS
W/ (CL) 1/2" BIRCH TRE-NAILS, 12" PER FACE

EXISTING BOTTOM CHORD -
CUT & HANGER TO BEAM

FLOOR PLAN

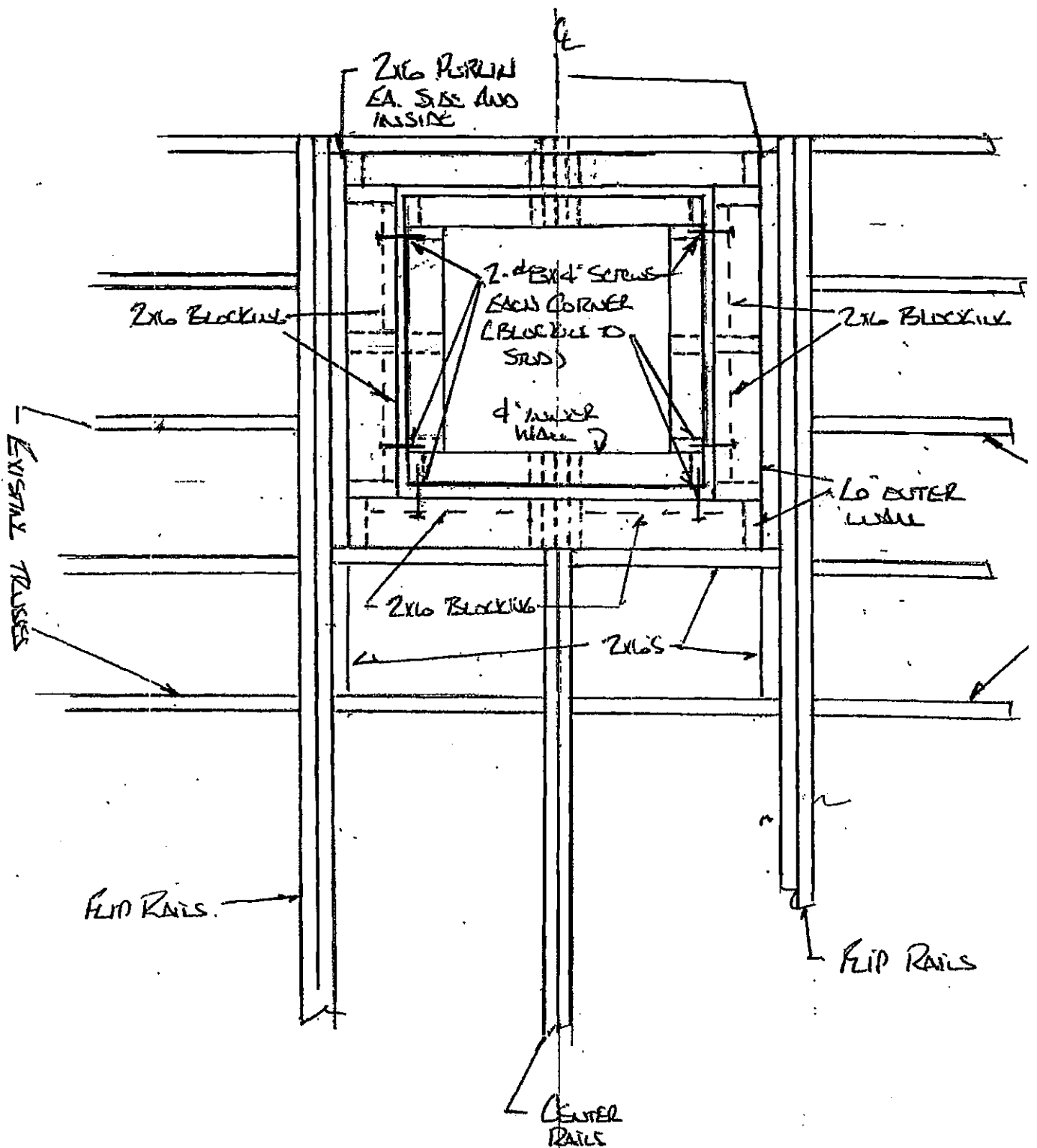


< Previous **23** Next >

- (1) BRICK TO BE Laid IN TYPE M OR S MORTAR
- (2) BRICKS & MORTAR TO BE APPROVED FOR CHIMNEYS.
- FOR OTHERS TO VERIFY ON-SITE

NOTE 2: ANGLE L-STEEL 6" X 6" X 1/4" WELD TOGETHER AT PEAK FASTEN TO EACH STUD W/ #8 X 3" SCREWS.

MASONRY DETAILS



NOTE: FASTEN SHEATHING TO THE BLOCKING
 1 1/2" x 2 1/2" x 1 1/2" STAPLES 6" O.C.

ROOF FRAMING

FROM THE DESK OF:

Page _____ of _____

Job No. _____

PATRICK M. OTOOLE

11559 SPLIT OAK DRIVE GRANGER, IN 46530 - (574) 247-1726

DATE 8/23/11 REV. _____

FOR INTEGRITY BUILDING SYSTEMS BY _____

SUBJECT MADISON HOME - CHIMNEY SUPPORT : 90MPA E.V.C

REFERENCE _____

BEAM L.T. : d16 Bar: HEIGHT = $38 \frac{3}{8} + 3 \frac{1}{2} = 41.875 = 742"$
 Limit Load = $420 \text{ PSI} / 420 / 12 = 160 \text{ PSI} = 13.417 \text{ PL}$

CHECK COMPRESSION $f_c = 13.417 \text{ PL} / 3.5" = 3.8 \text{ PL} : \text{OK}$

LOSS DEFL. LIMIT

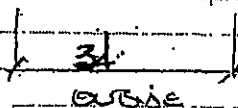
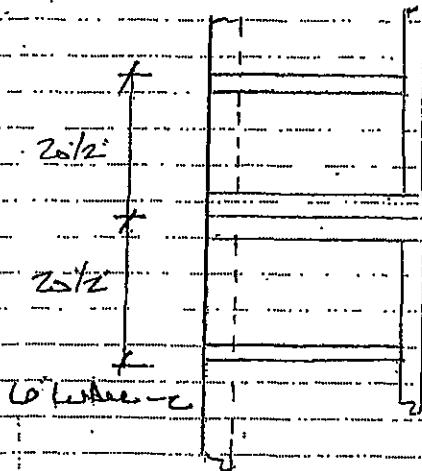
FRAMES AT FLOOR

CHECK 2LL:

Load = $13.417 / 420 = 21 \text{ LL}$

$f_{def} \leq 50$ $f_c = 15 / 50 = 75$

USE $43 \frac{1}{2}$



SILVER BEAM

THREE 2X10S AND 2 SPK:

BENDING:

$13.417 / 350 / 12 = 1939 \text{ LL}$

$f_b = 1939 / 3121.501 = 30 \text{ PL}$

DEFLECTION:

$\Delta = \frac{5(13.417)(350)^4}{384(1.5 \times 10^6)(8)(913.931)} = .007 = 4 \text{ WAS 7} : \text{OK}$

PASTING:

Load = $13.417 / 350 / 12 = 22 \text{ LL}$

Load $13 \times 3 \text{ L.W.S.} = 220 / 82 / 98 \frac{3}{4} = 46.57 \text{ LL} : \text{OK}$

1/3

FROM THE DESK OF:

Page _____ of _____

Job No. _____

PATRICK M. OTOOLE

11559 SPLIT OAK DRIVE GRANGER, IN 46530 ~ (574) 247-1726

DATE 8/23/11 REV. _____

FOR INTERLIT BUILDING SYSTEMS

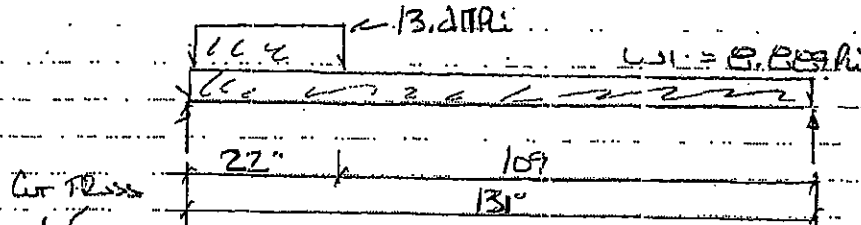
BY Pro

SUBJECT MADISON CHIMNEY SUPPORT

REFERENCE _____

Lower Beam:

TRIPLE MEMBER:



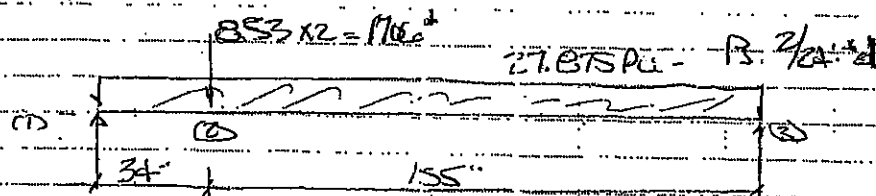
$$W = \frac{4082(32)(1/4)}{1000} = 3.88 \text{ PL}$$

TRIPLE ZIG'S - SEE PAGES 4&5

PC MATCH LINE = R₂ = 653' USE SIMPSON LUSZES OR FOM
ANCHOR = 1050'

CHECK CENTER BEAM:

1/2\"/>



OK - SEE PAGES 7&8

(B) L₁ = 90 WPA C

$$\text{MEAN ROOF HT} = 12 + 10 + 102 + 10 + 10 + 102 + \frac{109(9)}{200} = 315 = 260.25' \approx 260'$$

Ht. / Exp. Factor = 1.40

$$\text{CAL PRESSURE: TRB} = 43.85(38375)(1/4) = 11.69 \rightarrow 10 \text{ SQ.F}$$

$$\text{PRESSURE/S. BL(1/4)} = 22.12 \text{ PL} \leftarrow \text{Controls}$$

$$\text{MASS FRAME PRESSURE: 12.8(1/4)} = 17.92 \text{ PL}$$

FROM THE DESK OF:

Page _____ of _____

Job No. _____

PATRICK M. OTOOLE

11559 SPLIT OAK DRIVE GRANGER, IN 46530 ~ (574) 247 - 1726

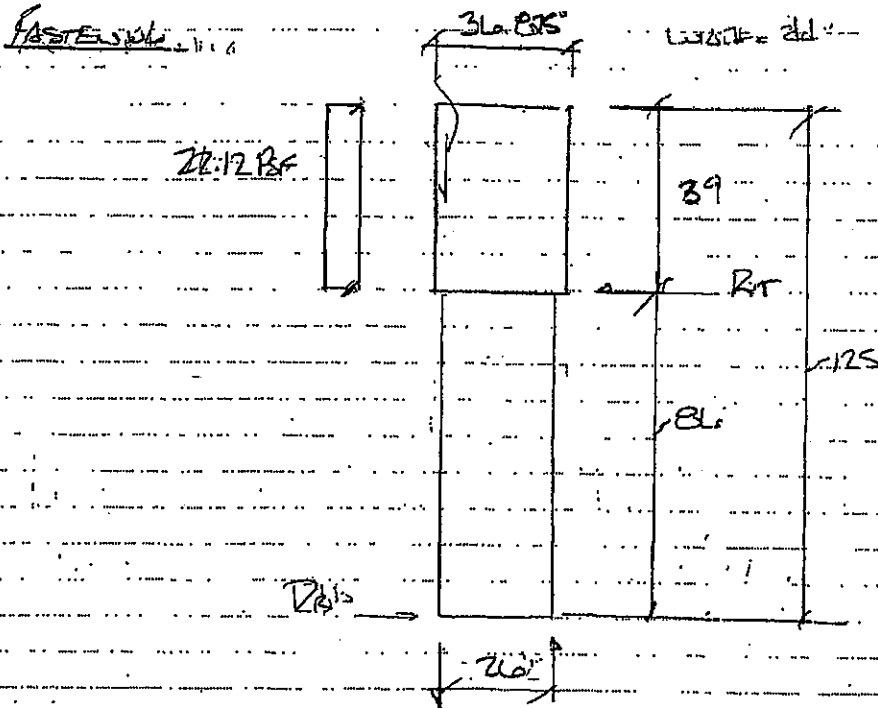
DATE 8/23/11 REV. _____

FOR INTERLUM BUILDING SYSTEMS

BY Pmo

SUBJECT MADISON CHURCH SUPPLY

REFERENCE _____



$$R_t = \frac{22.12 RF (44 \sqrt{39}) (1055)}{36 (144) (2)} = 162^+ / \text{SIDE}$$

$$R_s = \frac{22.12 RF (44 \sqrt{39}) (195)}{82 (144) (2)} = 30^+ / \text{SIDE}$$

PANEL SHEAR ON LOWER BOLT = LIMIT = 21

PANEL SHEAR = $\frac{162 (12)}{26} = 75 \text{ PLF}$ THE 1/4" X 7/16" X 1 1/2" SNAPS 6/12

ALL BOLT = 16 PLF (B) = 139.4 PLF OK

VERTICAL LOADS

$$T_{2L} = \frac{22.12 RF (39) (44) (1055)}{(144) (2)} = 11070^+ = 31.46 \text{ PL}$$

$$\# \text{ B.S. SCREW AREA} = 82 \text{ PL} (1.6) (15) = 196.8$$

$$SA = \frac{196.8}{31.46} = 6.2597 \text{ LBS}$$

$$\text{LOAD PER END} = 31.46 (10) (6) = 2832^+$$

$$\text{NO. TIE NAILS} = \frac{2832}{82 (1.6) (9)} = 21.5 \rightarrow 22$$

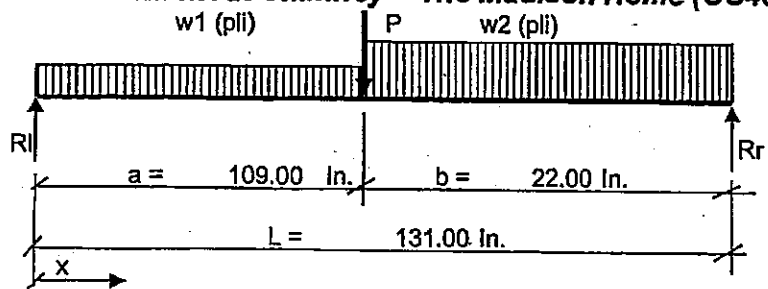
HORIZONTAL LOAD = 162^+ #EXT SCREWS PER END = 1 1/2" = 1 1/2"

$$\text{AREA} = 78^+ (1.6) (1.5) (4) = 114^+$$

2 PER FACE

3/8

Subject: Floor Reinforcement at Chimney - The Madison Home (CC484709-2) 131 In. Span

**Dimensions:****W1:**

Dead Ld = 10 Psf
 Live Ld = 30 Psf
 Trib = 32 In. o/c
 w1 = 8.89 Plf
 w1 (ll) = 6.67 Plf
 L = 131.00 Inches
 a = 109.00 Inches
 b = 22.00 Inches

W2:

Dead Ld = 10 Psf
 Live Ld = 30 Psf
 Trib = 32 In. o/c
 w2 = 22.31 Plf - *Beck weight*
 w2 (ll) = 6.67 Plf
 P = 0.0 Lbs.
 P(ll) = 0.0 Lbs.
 Trib. for P: 44.5 Inches

~~Beam~~ Triple 1.5 x 9.25"

Width, b = 1.50 Inches

Depth, d = 9.25 Inches

Number = 3

E = 1400000 Psi

Rr = 852.6 Lbs.

Fb = 875 Psi =

Fv = 135 Psi =

No. 2 Spf

Ix = 296.79 In. ^ 4

Sx = 64.17 In. ^ 3

RI = 607.0 Lbs. sum = 1459.6 Lbs. V. 1459.6 Lbs.

1106.9 Psi Cf = 1.10

135 Psi Cd = 1.00

Cr = 1.15

Bending:

Point of Mmax: 68.29 Inches from left

Mmax = 20725.8 In. - Lbs.

fb = 323.0 Psi O.K.

Shear: Vmax. at P at d from Rr:

Vmax = 495.6 Lbs.

fv = 17.9 Psi O.K.

Deflection Criteria:

Defl. = L / 720

Defl. LL = L / 360

W1:

Case 1: $0 \leq x \leq a$: Defl. = $wx [a^2(2L-a)^2 - 2ax^2(2L-a) + Lx^3] / 24EIL$:

Case 2: $a \leq x \leq L$: Defl. = $wa^2 (L-x) [4Lx-2x^2-a^2] / 24EIL$:

W2:

Case 1: $0 \leq x \leq a$: Defl. = $wb^2 (L-x) [4Lx-2x^2-b^2] / 24EIL$:

Case 2: $a \leq x \leq L$: Defl. = $wx [b^2(2L-b)^2 - 2bx^2(2L-b) + Lx^3] / 24EIL$:

Deflection:

Start x at approximately =

56.0 Inches

Increment =

0.5 Inches

Stop =

78.5 Inches

a = 109.00 Inches

b = 22.00 Inches

Max. Deflection = 0.090 Inches = L / 1451 O.K.

Max. LL Deflection = 0.060 Inches = L / 2197 O.K.

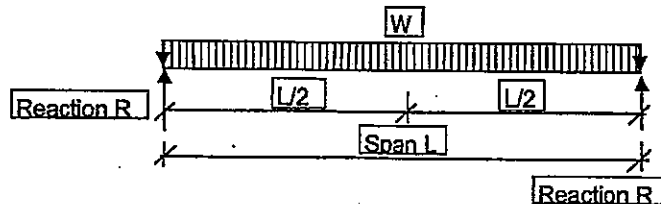
Subject: Floor Reinforcement at Chimney - The Madison Home (CC484709-2) 131 In. Span**Deflection Calculations:**

W1:				W2:			P:		Totals:	
x (Inches)	Case:	Defl. w1 (Inches)	Defl. W1(II) (Inches)	x (Inches)	Defl. W2 (Inches)	Defl. W2(II) (Inches)	Defl. P (Inches)	Defl. P (II) (Inches)	Defl. W (Inches)	Defl. W(II) (Inches)
56	1	0.075	0.051	75	0.013	0.004	0.000	0.000	0.088	0.055
56.5	1	0.075	0.051	74.5	0.013	0.004	0.000	0.000	0.088	0.055
57	1	0.075	0.052	74	0.013	0.004	0.000	0.000	0.088	0.055
57.5	1	0.075	0.052	73.5	0.013	0.004	0.000	0.000	0.088	0.056
58	1	0.076	0.052	73	0.013	0.004	0.000	0.000	0.089	0.056
58.5	1	0.076	0.052	72.5	0.013	0.004	0.000	0.000	0.089	0.056
59	1	0.076	0.053	72	0.013	0.004	0.000	0.000	0.089	0.057
59.5	1	0.076	0.053	71.5	0.013	0.004	0.000	0.000	0.089	0.057
60	1	0.076	0.053	71	0.013	0.004	0.000	0.000	0.089	0.057
60.5	1	0.076	0.053	70.5	0.013	0.004	0.000	0.000	0.089	0.057
61	1	0.076	0.054	70	0.013	0.004	0.000	0.000	0.090	0.058
61.5	1	0.076	0.054	69.5	0.013	0.004	0.000	0.000	0.090	0.058
62	1	0.076	0.054	69	0.013	0.004	0.000	0.000	0.090	0.058
62.5	1	0.076	0.054	68.5	0.013	0.004	0.000	0.000	0.090	0.058
63	1	0.077	0.054	68	0.013	0.004	0.000	0.000	0.090	0.058
63.5	1	0.077	0.055	67.5	0.014	0.004	0.000	0.000	0.090	0.059
64	1	0.077	0.055	67	0.014	0.004	0.000	0.000	0.090	0.059
64.5	1	0.077	0.055	66.5	0.014	0.004	0.000	0.000	0.090	0.059
65	1	0.077	0.055	66	0.014	0.004	0.000	0.000	0.090	0.059
65.5	1	0.077	0.055	65.5	0.014	0.004	0.000	0.000	0.090	0.059
66	1	0.077	0.055	65	0.014	0.004	0.000	0.000	0.090	0.059
66.5	1	0.077	0.055	64.5	0.014	0.004	0.000	0.000	0.090	0.059
67	1	0.076	0.055	64	0.014	0.004	0.000	0.000	0.090	0.059
67.5	1	0.076	0.055	63.5	0.014	0.004	0.000	0.000	0.090	0.059
68	1	0.076	0.055	63	0.014	0.004	0.000	0.000	0.090	0.060
68.5	1	0.076	0.055	62.5	0.014	0.004	0.000	0.000	0.090	0.060
69	1	0.076	0.055	62	0.014	0.004	0.000	0.000	0.090	0.060
69.5	1	0.076	0.055	61.5	0.014	0.004	0.000	0.000	0.090	0.060
70	1	0.076	0.055	61	0.014	0.004	0.000	0.000	0.090	0.060
70.5	1	0.076	0.055	60.5	0.014	0.004	0.000	0.000	0.090	0.060
71	1	0.076	0.055	60	0.014	0.004	0.000	0.000	0.090	0.060
71.5	1	0.076	0.055	59.5	0.014	0.004	0.000	0.000	0.090	0.060
72	1	0.075	0.055	59	0.014	0.004	0.000	0.000	0.089	0.060
72.5	1	0.075	0.055	58.5	0.014	0.004	0.000	0.000	0.089	0.059
73	1	0.075	0.055	58	0.014	0.004	0.000	0.000	0.089	0.059
73.5	1	0.075	0.055	57.5	0.014	0.004	0.000	0.000	0.089	0.059
74	1	0.075	0.055	57	0.014	0.004	0.000	0.000	0.089	0.059
74.5	1	0.075	0.055	56.5	0.014	0.004	0.000	0.000	0.089	0.059
75	1	0.074	0.055	56	0.014	0.004	0.000	0.000	0.088	0.059
75.5	1	0.074	0.055	55.5	0.014	0.004	0.000	0.000	0.088	0.059
76	1	0.074	0.055	55	0.014	0.004	0.000	0.000	0.088	0.059
76.5	1	0.074	0.055	54.5	0.014	0.004	0.000	0.000	0.088	0.059
77	1	0.073	0.054	54	0.014	0.004	0.000	0.000	0.087	0.059
77.5	1	0.073	0.054	53.5	0.014	0.004	0.000	0.000	0.087	0.058
78	1	0.073	0.054	53	0.014	0.004	0.000	0.000	0.087	0.058
78.5	1	0.073	0.054	52.5	0.014	0.004	0.000	0.000	0.087	0.058

Subject: Alt. Beam at Bedroom #1 Roof - The Madison Home

Header: Double 1 1/2 x 24 LVL (E2.0)

Grade: LVL (E2.0)
 Width b = 3.00 Inches
 depth d = 24.00 Inches
 $I_x = 3456.00 \text{ in.}^4$
 $S_x = 288.00 \text{ in.}^3$



General Information:

Box Width =	262 Inches	Line Load W =	27.88 Plf - page 2/24, #4
Eave =	Inches	Live Load W(LL) =	20.91 Plf
Roof Dead Load =	17 Psf	Floor D. Load =	Psf
Roof Live Load =	30.8 Psf	Floor Live Load =	Psf
Attic Live Load =	Psf	Wall Dead Load =	Plf

Allowables:

$F_b = 2750 \text{ Psi}$	Beam Stability Factor C_i :	
$F_v = 250 \text{ Psi}$	$b > d$?	No
$E = 2000000 \text{ Psi}$	Lateral support $l_u =$	48 Inches
Repetitive $C_r = 1.00$	$l_u / d =$	2.00
Duration Factor $C_d = 1.15$	$l_e = 2.06 \times l_u$	98.88 Inches
Size Factor $C_f = 0.94$	$R_b = [l_e \times d / b^2]^{.5} =$	16.24
Flat Use Factor $C_{fu} = 1.00$	$K_{be} =$	0.610
$C_m^* = 1.00$	$F_b E = K_{be} \times E / R_b^2 =$	4626.8 Psi
Beam Stability $C_i = 0.93$	$F_b' = F_b(C_r)(C_d)(C_f)(C_m) =$	2967.1 Psi
Design $F_b = F_b(C_r)(C_d)(C_f)(C_{fu})(C_i)(C_m) :$	$\& = F_{be} / F_b' =$	1.6
Design $F_b = 2571.9 \text{ Psi}$	$C_i = (1 + \&) / 1.9 - \{ [(1 + \&) / 1.9]^2 - \& / .95 \}^{.5}$	
	$C_i =$	0.931

Bending:

Max. Span = $[8 \times S_x F_b / W]^{.5} = 461.07 \text{ Inches}$
 Desired Span = 189.00 Inches

Deflection:

Deflection Criteria: Defl. = $L / 180$
 LL Defl. = $L / 240$
 Total Deflection = $5WL^4 / 384EI$:
 Deflection = 0.067 in. = $L / 2821$ O.K.
 Live Load Deflection = Total Defl. $\times (W(LL)/W_{max})$:
 Live Load Deflection = 0.050 in. = $L / 3761$ O.K.

Shear:

$V = 1/2 \times W \times (L - 2d) = 1965.2 \text{ Lbs.}$
 Shear Stress $f_v = 40.9 \text{ Psi}$ O.K.

Recheck:

$$L_{max} = 27.88 \text{ Plf} (189 \text{ in}) / (2 \times 2571.9 \text{ Psi}) = 2635 \text{ in}$$

$$f_v = \frac{2635}{3761} = 25 \text{ Psi}$$

Company : Integrity Building Systems
 Designer : P. O'Toole
 Job Number :

Beam at The Madison Home Bdrm #1

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 2:28 PM
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Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Temp [F]
1	N1	0	0	0
2	N2	34	0	0
3	N3	189	0	0

Member Primary Data

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		Beam	Beam	Rectangular	LVL	Typical
2	M2	N2	N3		Beam	Beam	Rectangular	LVL	Typical

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in ²]	I (90,270) [in ⁴]	J (0,180) [in ⁴]
1	Beam	2-1.5X24FS	Beam	Rectangular	LVL	Typical	72	54	3456
2	LVL Beam	2-1.5X11.25...	Beam	Rectangular	LVL	Typical	33.75	25.313	355.957

Custom Wood Properties

	Label	Fb [psi]	Ft [psi]	Fv [psi]	Fc [psi]	E [psi]	SCL
1	LVL(E2.0)	2750	1000	285	1000	2e+6	Yes

Joint Loads and Enforced Displacements (BLC 1 : Fully Loaded)

	Joint Label	L.D.M	Direction	Magnitude[lb,lb-in in,rad lb*s^2/in]
1	N2	L	Y	-1706

Member Distributed Loads (BLC 1 : Fully Loaded)

	Member La...	Direction	Start Magnitude[lb/in,d...	End Magnitude[lb/in,deg]	Start Location[in, %]	End Location[in, %]
1	M1	Y	-27.875	-27.875	0	0
2	M2	Y	-27.875	-27.875	0	0

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	MZ [lb-in]
1	1	N3	0	2803.274	0
2	1	N1	0	3895.476	0
3	1	Totals:	0	6698.75	
4	1	COG (in):	X: 79.092	Y: 0	

Member Wood Code Checks (By Combination)

	LC	Member	Shape	UC Max	Loc[in]	Shear ...	Loc[in]	Fc[psi]	Ft[psi]	Fb[psi]	Fv[psi]	RB	CL	CP	Eqn
1	1	M1	2-1.5X24FS	.144	34	.248	0	1007.3...	1035	2823.7...	327.75	6.532	.992	.973	3.9-3
2	1	M2	2-1.5X24FS	.183	48.438	.178	155	219.095	1035	2823.7...	327.75	6.532	.992	.212	3.9-3

Member Section Deflections (By Combination)

	LC	Member Label	Sec	x [in]	y [in]	(n) L/y Ratio
1	1	M1	1	0	0	NC
2			2	0	-.013	NC
3			3	0	-.026	NC
4			4	0	-.038	NC

Company : Integrity Building Systems
Designer : P. O'Toole
Job Number :

Beam at The Madison Home Bdrm #1

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Member Section Deflections (By Combination) (Continued)

	LC	Member Label	Sec	x [in]	y [in]	(n) L/y Ratio
5			5	0	-0.049	NC
6	1	M2	1	0	-0.049	NC
7			2	0	-0.08	3626.642
8			3	0	-0.079	2860.873
9			4	0	-0.049	4261.126
10			5	0	0	NC

FASTENED LUS-13x13 UNITS PER
END L5 PER MEMBER

THRUOUT BEAM COURSE KNEE
WELDS
2x10 No. 2 SPC

EXISTING TRUSSES

EXISTING TRUSSES

EXISTING TRUSSES

PROPOSED 2x10 FRAMING

PROPOSED 2x10 FRAMING

EXISTING 2x10 FRAMING

ADD 2x10 NO. 2
SPC

2x10 S16x2
NO. 2 SPC -
WELD END END
WELD 1/2" x 3" PER
LUS-13x13 PER SIDE

2ND FLOOR CEILING FRAMING

DR. 2x10 NO. 2 SPC

HANGER SIMPSON
LUS-2B-13 OR EOW
AT END END

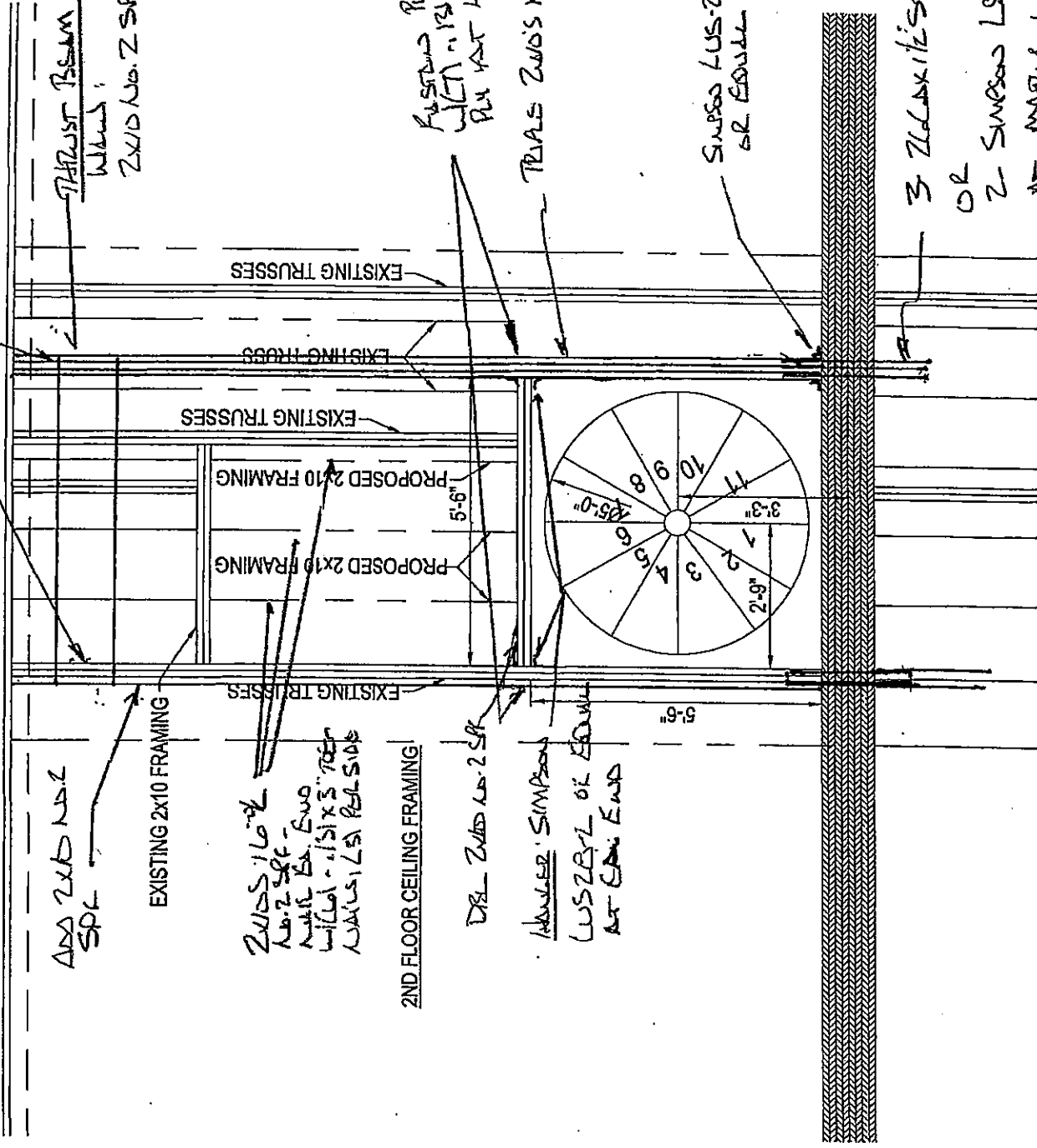
FASTENED PYS TO EOW
W/ 1/2" x 3/4" UNITS PER
PYS AT HANGER

TRUS 2x10 NO. 2 SPC

SUSP LUS-2B-13 HANGER
OR EOW

3 2x10x16 SPC

OR
2 SUSP LUS-13x13 SPC
AT HANGER END



FROM THE DESK OF:

Page _____ of _____

Job No. _____

PATRICK M. OTOOLE

11559 SPLIT OAK DRIVE GRANGER, IN 46530 ~ (574) 247-1726

DATE 8/25/11 REV. _____

FOR INTEGRITY BUILDING SYSTEMS BY Pmo

SUBJECT MADISON (C481709-2) - SPIRAL STAIR FRAMING

REFERENCE TRUSS: 1/721 L297-95 (R.7)

Bottom Chords Live Load = 30 PSF

① FILLER TRUSS:

$$W = d \cdot L \cdot W \cdot L / H \cdot A = d \cdot H \cdot P \cdot L$$

$$Load Per End = d \cdot H \cdot L \cdot W \cdot L / A$$

$$= 100^*$$

Ln. Truss Nails:

$$Air Ble = 824 \cdot 2/3 = 51.7^*$$

$$N_b = 100 / 51.7 = 1.8 \approx 2$$

② HEADER:

$$W = [10 \cdot B \cdot L \cdot W \cdot L / H \cdot A + d \cdot B \cdot L \cdot W \cdot L / H \cdot A]$$

$$100^*$$

$$W = 7.821 \cdot P \cdot L$$

$$Load Per End = 7.821 \cdot P \cdot L / H \cdot A = 192^*$$

$$Ln. Truss Nails = 192 / 51.7 = 3.5 \approx 4$$

(3) PERL SWS

③ HEADER: L₁ L₂ L₃ = L₁₀ : DRY TRUSS

$$P = 51.7 / 2 = 25.85 \text{ PSF}$$

$$P_{100} = d \cdot B \cdot L \cdot W \cdot L / H \cdot A \cdot P = 36.5^*$$

$$d \cdot B \cdot L \cdot W \cdot L / H \cdot A = 120^*$$

$$P_{100} = [10 \cdot B \cdot L \cdot W \cdot L / H \cdot A + d \cdot B \cdot L \cdot W \cdot L / H \cdot A] / H \cdot A + 25.85 \cdot P = 25.227 \cdot P$$

$$TOTAL = d \cdot B \cdot L \cdot W \cdot L / H \cdot A + 25.227 \cdot P = 29.81 \cdot P$$

$$BENDING: M = 29.81 \cdot L \cdot W \cdot L / H \cdot A = 16232^*$$

$$I_b = 16232 / 2(21.35) = 379 \text{ AS OK}$$

$$Load Per End = 29.81 \cdot P \cdot L / H \cdot A = 984^*$$

④ TRIMMER

$$W = d \cdot L \cdot W \cdot L / H \cdot A$$

$$= 10 \cdot B \cdot L \cdot W \cdot L / H \cdot A$$

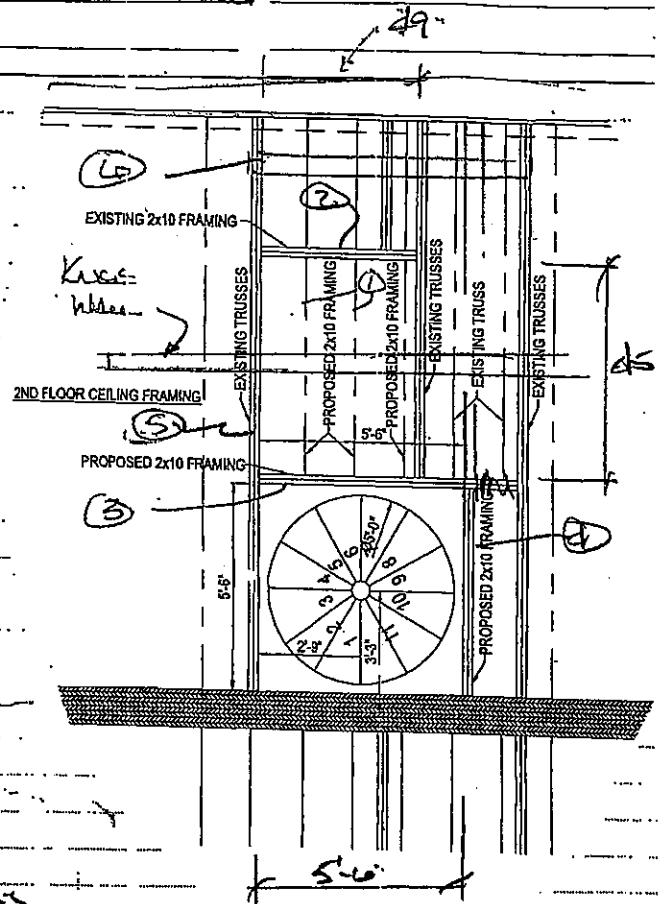
$$W = d \cdot L \cdot W \cdot L / H \cdot A$$

$$W = 10 \cdot L \cdot W \cdot L / H \cdot A = 1.111 \cdot P$$

BEAM: TRIMMER TRUSS AND 2 SPK - See Pages 3 & 4

$$R_{TRUSS} = R_D = 1111^*$$

$$HANGER: SWS LUS 2A-3 Air Ble = 1265^*$$



FROM THE DESK OF:

Page _____ of _____

Job No. _____

PATRICK M. OTOOLE

11559 SPLIT OAK DRIVE GRANGER, IN 46530 - (574) 247 - 1726

DATE 2/25/11 REV. _____

FOR INTEGRITY BUILDING SYSTEMS

BY PMO

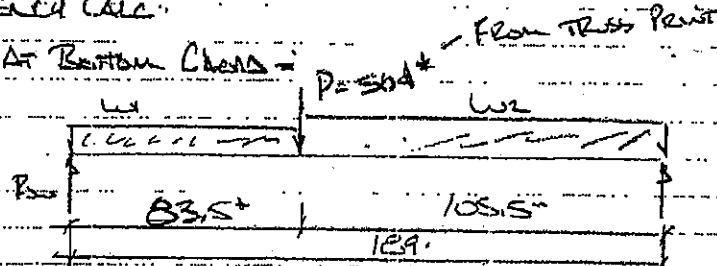
SUBJECT MADISON - SPIRAL STAIR FRAMING

REFERENCE _____

⑤ TRIMMERS - EXISTING TRUSSES

Do AN EQUIVALENT CALC.

Max Moment At Bottom Chord -



$$L_1 = 10(1.4) / 1.414 = 111.12'$$

$$L_2 = 10(1.4) / 1.414 = 111.12'$$

$$P_{sw} = (111.12(504) / 172) + (504(108.5) / 172) + (111.12(504) / 172) = 481'$$

$$M_{max} = 481(63.5) = 30,553'$$

Actual Moment - SAME AS TRIMMER + Plus THE 504 k Concentrated Load.

ADD 504 k LOADS.

TRIMMER: ADD 2ND 60 TENSION PERFORM.

L.P.S.

⑥ THIRST BEAM AXIAL = 827 kips LWD 827/240 = 34.458 kips

$$S_{AW} = LWD + 15 = 70/2$$

BEAM 2ND NO 2 STR SEE PAGE 6

$$F_{ASTRAL} \text{ LWD PER END} = 34.458(70.5/2) = 1215'$$

$$\text{NO. 13x3 NAILS} = 1215 / (32 / 1.5) = 13'$$

~ 5 PER MEMBER 575

AT MATING LWD: LWD = 1215'

USE (3) - 26x12x1/2" STRIPS

$$A_{STRIPS} = 3(643) / (1.133) = 1687'$$

ACT. (2) SIMPLY LSTA 18 STRIPS

Company : Integrity Building Systems
 Designer : P. O'Toole
 Job Number :

Trimmers at Spiral Stair - Madison Home

Aug 25, 2011
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Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Temp [F]
1	N1	0	0	0
2	N2	70.5	0	0
3	N3	105.5	0	0
4	N4	189	0	0

Member Primary Data

	Label	I Joint	J Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		Beam	Beam	Rectangular	No. 2 Spf	Typical
2	M2	N2	N3		Beam	Beam	Rectangular	No. 2 Spf	Typical
3	M3	N3	N4		Beam	Beam	Rectangular	No. 2 Spf	Typical

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in ²]	I (90,270) [in ⁴]	I (0,180) [in ⁴]
1	Beam	3-2X10	Beam	Rectangular	No. 2 Spf	Typical	41.625	70.242	296.795

Custom Wood Properties

	Label	Fb [psi]	Ft [psi]	Fv [psi]	Fc [psi]	E [psi]	SCL
1	LVL(E2.0)	2750	1000	285	1000	2e+6	Yes
2	LVL	2750	1000	285	1000	1.8e+6	Yes

Joint Loads and Enforced Displacements (BLC 1 : Full Load)

	Joint Label	L.D.M	Direction	Magnitude[lb,lb-in in,rad lb*s^2/in]
1	N2	L	Y	-984

Member Distributed Loads (BLC 1 : Full Load)

	Member La...	Direction	Start Magnitude[lb/in,d...]	End Magnitude[lb/in,deg]	Start Location[in, %]	End Location[in, %]
1	M1	Y	-6.806	-6.806	0	0
2	M2	Y	-4.444	-4.444	0	0
3	M3	Y	-1.111	-1.111	0	0

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	MZ [lb-in]
1	1	N1	0	1110.896	0
2	1	N4	0	601.235	0
3	1	Totals:	0	1712.131	
4	1	COG (in):	X: 66.37	Y: 0	

Member Wood Code Checks (By Combination)

	LC	Member	Shape	UC Max	Loc[in]	Shear ...	Loc[in]	Fc[psi]	Ft[psi]	Fb[psi]	Fv[psi]	RB	CL	CP	Eqn
1	1	M1	3-2X10	.864	70.5	.297	0	1109.7	495	1106.8	135	0	1	.965	3.9-3
2	1	M2	3-2X10	.864	0	.136	35	1140.7	495	1106.8	135	0	1	.992	3.9-3
3	1	M3	3-2X10	.652	0	.160	83.5	817.97	495	1106.8	135	6.176	1	.711	3.9-3

$\rightarrow A_m \leq 1.0 \frac{F_u}{F_y}$

Company : Integrity Building Systems
 Designer : P. O'Toole
 Job Number :

Trimmers at Spiral Stair - Madison Home

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Member Section Deflections (By Combination)

LC	Member Label	Sec	x [in]	y [in]	(n) L/y Ratio
1	1	M1	1	0	NC
2			2	0	2172.877
3			3	0	1377.623
4			4	0	1605.116
5			5	0	NC
6	1	M2	1	0	NC
7			2	0	NC
8			3	0	2275.02
9			4	0	(D) -461 1744.752
10			5	0	-456 2382.56
11	1	M3	1	0	NC
12			2	0	NC
13			3	0	-375 1909.856
14			4	0	-271 1660.677
15			5	0	-142 2644.621
				0	NC

W = 9/16" x 10" x 1/2"

Company : Integrity Building Systems
Designer : P. O'Toole
Job Number :

Trimmers at Spiral Stair - Madison Home

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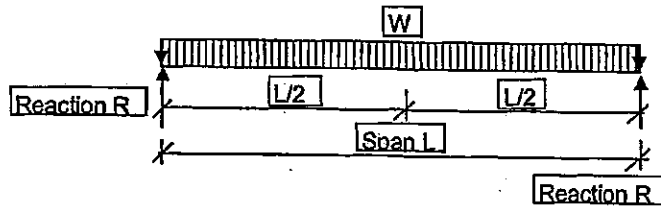
Net Moment at Existing Trusses

Member Section Forces (By Combination)

	LC	Member Label	Sec	Axial[lb]	Shear[lb]	Moment[lb-in]
1	1	M1	1	0	1333.563	0
2			2	0	1213.607	-22446.938
3			3	0	1093.652	-42779.656
4			4	0	973.696	-60998.154
5			5	0	853.74	-77102.432
6	1	M2	1	0	-130.26	-77102.432
7			2	0	-169.145	-75792.536
8			3	0	-208.03	-74142.395
9			4	0	-246.915	-72152.011
10			5	0	-285.8	-69821.383
11	1	M3	1	0	-789.8	-69821.383
12			2	0	-812.992	-53092.241
13			3	0	-836.184	-35878.963
14			4	0	-859.376	-18181.549
15			5	0	-882.568	0

Subject: Thrust Beam at Spiral Stair - The Madison Home**Header:** Single 1 1/2 x 9.25 LVL (E2.0)

Grade: LVL (E2.0)
 Width b = 1.50 Inches
 depth d = 9.25 Inches
 $I_x = 98.93 \text{ in.}^4$
 $S_x = 21.39 \text{ in.}^3$

**General Information:**

Box Width =	262 Inches	Line Load W =	34.46 Plf - page 2, #6
Eave =	Inches	Live Load W(II) =	20.91 Plf
Roof Dead Load =	17 Psf	Floor D. Load =	Psf
Roof Live Load =	30.8 Psf	Floor Live Load =	Psf
Attic Live Load =	Psf	Wall Dead Load =	Plf

Allowables:

$F_b =$	875 Psi	Beam Stability Factor C_i :	
$F_v =$	135 Psi	$b > d$?	No
$E =$	1400000 Psi	Lateral support $l_u =$	16 Inches
Repetitive $C_r =$	1.00	$l_u / d =$	1.73
Duration Factor $C_d =$	1.15	$l_e = 2.06 \times l_u$	32.96 Inches
Size Factor $C_f =$	1.10	$R_b = [l_e \times d / b^2]^{1.5} =$	11.64
Flat Use Factor $C_{fu} =$	1.00	$K_{be} =$	0.610
$C_m^* =$	1.00	$F_b E = K_{be} \times E / R_b^2 =$	6302.5 Psi
Beam Stability $C_i =$	0.99	$F_b' = F_b(C_r)(C_d)(C_f)(C_m) =$	1106.9 Psi
Design $F_b = F_b(C_r)(C_d)(C_f)(C_i)(C_m) :$		$\& = F_{be} / F_b' =$	5.7
Design $F_b =$	1084.0 Psi	$C_i = (1 + \&) / 1.9 - \{[(1 + \&) / 1.9]^2 - \& / .95\}^{.5}$	
		$C_i =$	0.990

Bending:

Max. Span = $[8 \times S_x F_b / W]^{.5} = 73.37 \text{ Inches}$
 Desired Span = 70.50 Inches

Deflection:

Deflection Criteria: Defl. = $L / 180$
 LL Defl. = $L / 240$
 Total Deflection = $5WL^4 / 384EI$:
 Deflection = 0.080 in. = $L / 881$ O.K.
 Live Load Deflection = Total Defl. $\times (W(LL)/W_{max})$:
 Live Load Deflection = 0.049 in. = $L / 1452$ O.K.

Shear:

$V = 1/2 \times W \times (L - 2d) = 895.9 \text{ Lbs.}$
 Shear Stress $f_v = 96.9 \text{ Psi}$ O.K.

Job V721	Truss L297-9S	Truss Type HINGED ATTIC	Qty 1	Ply 1	Integrity Building Systems 29' 7" w 9/12 cape (L297-9S & L278-9M)
Universal Forest Products Inc., Grand Rapids, MI 49525, Andrew Mulsinar					

7.250 a Jan 10 2011 MITek Industries, Inc. Thu Apr 14 11:42:32 2011 Page 1 of 4
 ID:3E0C_MX0Uqpkk14_eeCRzcc5S-SXeFQK3xP4PvYalYfgArykBgXyDwUw7hRrZqQEL
 0-10-0 14-8-0 29-4-0 30-2-0
 0-10-0 14-8-0 29-4-0 30-2-0

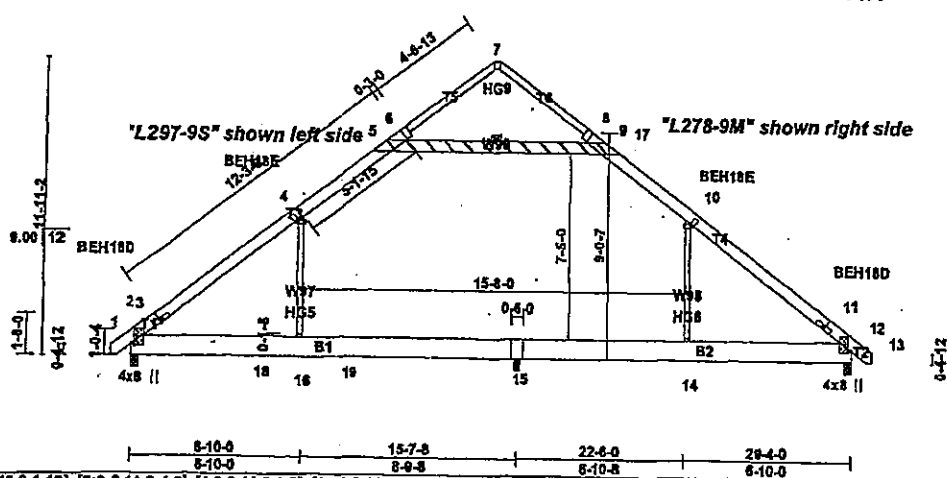


Plate Offsets (X,Y): [2:0-0-13,0-1-13], [3:0-0-11,0-1-2], [4:0-0-11,0-1-2], [10:0-0-11,0-1-2], [11:21-8-10,18-0-10], [12:0-0-13,0-1-13]											
SPACING: 2-0-0 LOADING (psf) TCLL 30.8 (Ground Snow=40.0) TCDL 7.0 BCLL 0.0 BCDL 10.0		SPACING: 1-4-0 LOADING (psf) TCLL 46.2 (Ground Snow=80.0) TCDL 10.5 BCLL 0.0 BCDL 15.0		SPACING 2-0-0 Plates Increase 1.15 Lumber Increase 1.15 Rep Stress Incr YES Code IBC2009/TP12007		CSI TC 0.67 BC 0.46 WB 0.61 (Matrix)		DEFL In (loc) U/defl L/d Vert(LL) -0.36 15-16 >517 240 Vert(TL) -0.56 15-16 >334 180 Horz(TL) 0.01 12 n/a n/a Attic -0.36 15-16 593 360		PLATES GRIP MT20 197/144 MH18 141/138 Weight: 176 lb FF = 0%	

LUMBER
 TOP CHORD 2 X 6 SPF No.2 "Except"
 T4: 2 X 6 SPF 1850F 1.5E, T5,T6: 2 X 4 SPF No.2
 BOT CHORD 2 X 10 SYP DSS
 WEBS 2 X 3 SPF Stud "Except"
 W99: 2 X 6 SPF No.2

BRACING
 TOP CHORD Structural wood sheathing directly applied or 5-7-14 oc purlins.
 BOT CHORD Rigid colling directly applied or 7-8-6 oc bracing.
 WEBS 1 Row at midpt 5-9

REACTIONS (lb/size) 2=1245/0-3-8 (min. 0-2-1), 12=1187/0-3-8 (min. 0-2-0), 15=877/0-3-0 (min. 0-1-8)
 Max Horiz 2=461(LC 7)
 Max Uplift 2=462(LC 9), 12=436(LC 10), 15=142(LC 10)
 Max Grav 2=1323(LC 15), 12=1277(LC 2), 15=878(LC 14)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/25, 2-3=1222/363, 3-4=1025/348, 4-5=1105/486, 5-6=417/129, 6-7=237/143, 7-8=235/142, 8-17=396/129, 9-17=412/128, 5-10=1060/486, 10-11=1025/374,
 11-12=1222/389, 12-13=0/25
 BOT CHORD 2-18=197/829, 16-18=197/829, 15-19=195/827, 14-15=195/827, 12-14=193/829
 WEBS 10-14=541/475, 4-16=504/422, 5-9=641/461

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (lb-in)
 5=641/461/44/0, 6=371/132/182/0, 7=200/145/181/0, 8=373/131/184/0, 9=641/461/44/0, 14=541/475/0/0, 15=195/827/547/0, 16=504/422/0/0

- NOTES** (18-20)
- 1) Wind: ASCE 7-05; 100mph @24in o.c.; TCDL=2.8psf; BCDL=4.0psf; (Alt. 122mph @16in o.c.; TCDL=4.2psf; BCDL=8.0psf); h=30ft; Cat II; Exp C; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) TCLL: ASCE 7-05; Pg=40.0 psf (ground snow); Ps=30.8 psf (roof snow); Category II; Exp C; Partially Exp.; Cf=1.1
 - 3) Roof design snow load has been reduced to account for slope.
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) This truss has been designed for greater of min roof live load of 15.0 psf or 2.00 times flat roof load of 30.8 psf on overhangs non-concurrent with other live loads.
 - 6) This truss has been designed for basic load combinations, which include cases with reductions for multiple concurrent live loads.
 - 7) All plates are MT20 plates unless otherwise indicated.
 - 8) See BEH18 DETAILS for plate placement.
 - 9) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
 - 10) All additional member connections shall be provided by others for forces as indicated.
 - 11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 13) Ceiling dead load (5.0 psf) on member(s). 4-5, 9-10, 5-9
 - 14) Bottom chord live load (30.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 15-16, 14-15
 - 15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 462 lb uplift at joint 2, 436 lb uplift at joint 12 and 142 lb uplift at joint 15.
 - 16) This truss has been designed in accordance with the 2009 IBC Section 2303.4.6, 2009 IRC Section 802.10.2.
 - 17) Attic room checked for L/360 deflection.
 - 18) If shown, field installed members are an integral part of this design. To ensure proper performance, all field installed members must be installed prior to applying any loading to the truss.
 - 19) Take precaution to keep the chords in plane, any bending or twisting of the hinge plate must be repaired before the building is put into service.
 - 20) Truss has been designed per 2009 IBC Sec. 2303.4.2; 2009 IRC Sec. 802.10.2.

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EMAILS SUBMITTED AFTER
SEPT. 25, 2012 FACT-FINDING
CONFERENCE

McMahan, Alan (DHCD)

From: Hunter Madison [huntermadison2002@yahoo.com]
it: Thursday, September 27, 2012 7:09 AM
Subject: Leatherby, Eric (DHCD); McMahan, Alan (DHCD); Calhoun, Steve (DHCD); Hodge, Vernon (DHCD); Davis, Cindy (DHCD); "chris.thompson@loudoun.gov"; "gschaecher@kasannlaw.com"; Ralph Rinaldi; Shelton, Bill (DHCD); Rodgers, Emory (DHCD)
Attic/thrid floor

Hello.

I am still considering the discussion we had on Tuesday but I thought the definition found in the ICC pursuant to the IBSR VAC 5-91-160 would be immediately helpful. I have also attached below a few e-mails that discuss the third floor.

The house came with the floor for the third floor/attic, as provided by Milton. There was no doubt the Milton KNEW the third floor was to be finished space.

ATTIC. Several provisions apply to the attic area of a building, such as those relating to ventilation of the attic space. In order to fully clarify that portion of a building defined as an attic, Section 202 identifies an attic as that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story. A common misuse of terminology is the designation of a space as a habitable or occupiable attic. Such a designation is inappropriate insofar as once such a space is utilized for some degree of occupancy, it is no longer deemed an attic.

The definition calls another error into question--- NTA, Inc. erroneously denotes the plan as a "two-story" house.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Thu 3/31/2011 6:06 AM
To: Martin Sickle
Cc: jlancelotta@weaverprecast.com
Subject: Hopefully, last few questions

Marty,

As soon as Dick has figured out the load for the basement steel beams can you get it to Jack. I have my permits and want to get the foundation ordered.

How does the price for the 4 panel door slabs at \$100.00 per compare to the pricing you had?

Will my house have knee walls in the attic, in particular the 43 x 30 main block which is the area I intend to finish? The HVAC guy wants a better understanding of the attic "plan" to locate the equipment. Do you have anything?

Do you install whole house fans? In addition to finishing the attic area, 43 x 30, I want to have a whole house fan located in the room to remove the hot air from the house. The fan should be located along the south attic wall.

As stated previously, BoraCare can pre-treat the wood for termites. Health does not inspect the house to make sure it was used. It cost \$69.99 per gallon and would be much cheaper than using other building products.

Do you have a spec sheet for the Marvin fiberglass windows and what do they cost per window? I would like to know their ratings. The grill must be permanently fixed, inside and out and be 3/4".

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Sun 4/10/2011 7:26 AM
To: Martin Sickle
Subject: RE: HVAC - electric

Marty,

I want to have my super fan installed in the attic. If necessary, I will supply the fan but the ducts need to be added prior to closing off walls with insulated 8" duct, 4, r6 insulation. The ducts are illustrate in the PDF product manual as attached. I think the I should have one in the ceiling of the to be finished attic, one in the master bed, one in the second floor hallway, and one in bedroom 3.

As for the HVAC, I will end up with two zones. The one unit should be placed behind the attic knee wall to be finished to heat and cool the attic and second floor. Can your experts provide some ball park as to where the chase needs to be and any rough ducts? I am working diligently to move this along but as of now, have little forward movement with the HVAC system.

Milari 540-882-3160

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Fri 3/4/2011 8:45 AM
To: Martin Sickle
Subject: House price, Madison

Marty,

I have concerns about putting the bits and pieces together as the details add up either at your factory or for me to finish later.

I spoke with Darren and he says you are pricing the project. Please know that I would like 8 panel doors to the down stairs and 4 panel for the upstairs (the 5 panel are not consistent with a Colonial home).

I found Conestoga (from PA) unfinished cabinets through Cabinet Authority that I can use. They are RTA. Can you install these and at what cost?

All of the walls all need insulation.

All rooms nee at least one ceiling light receptacle; the 1st and 2nd story porches need three recessed lights (I will furnish the light)

All bathrooms need wall lights above the vanity sink and fans to the outside.

We need Ethernet wiring to the family room, den, office and attic

Certain trim specifications are attached that I would like to use, or something similar. Burton Molding 571-839-1143.

----- Forwarded Message -----

From: Hunter Madison <huntermadison2002@yahoo.com>
To: ""Leatherby, Eric (DHCD)"" <Eric.L Leatherby@dhcd.virginia.gov>; ""McMahan, Alan (DHCD)"" <Alan.McMahan@dhcd.virginia.gov>; Steve (DHCD) Calhoun <steve.calhoun@dhcd.virginia.gov>; ""Hodge, Vernon (DHCD)"" <Vernon.Hodge@dhcd.virginia.gov>; ""Davis, Cindy (DHCD)"" <Cindy.Davis@dhcd.virginia.gov>;

""chris.thompson@loudoun.gov"" <chris.thompson@loudoun.gov>; ""gschaecher@kasannlaw.com""
<gschaecher@kasannlaw.com>; Ralph Rinaldi <ralph@cowleslaw.com>; Bill <bill.shelton@dhcd.virginia.gov>; Emory
<emory.rodgers@dhcd.virginia.gov>

Sent: Tuesday, September 18, 2012 5:59 AM

Subject: NTA, Inc. should be a party to the appeal - More from 9/17/12

The attached document of the Madison Stair Trimmer is the "plan" the Milton staff/crew (unlicensed) had in hand when I inadvertently found them in my house, after they demolished the wall going from the second floor to the third floor. By demolishing the wall, without written permission from me or Loudoun County, they caused additional dangerous conditions (violations to the USBC). They left hot dangling electric wires from the ceiling and unguarded drops/opening to the various stairwells, as well as piles of construction debris. I immediately asked them to see the plan, and explained why it would not work (setting apart the functionality of the design and use of the space). The Milton staff agreed it would NOT work, called their boss, and abandoned the project. NTA, Inc. **ALSO** should have been involved with the "approval" of the changes to the plan, a "corrective" measure outlined in 13 VAC 5-91-200 of the IBSR. I repeatedly contacted NTA, Inc and they knew about the problems.

It should be noted that the chimney Milton built/set on-site caused a deviation from the plan and failed to meet code. A second contractor had to come in to fix the chute to properly accommodate the pipes per the mfrs. specs.

Milari Madison

----- Forwarded Message -----

From: Jeff Bower <JeffB@integritybuild.com>

To: Hunter Madison <huntermadison2002@yahoo.com>; Martin Sickle <MartyS@integritybuild.com>; Richard Rowe <DickR@integritybuild.com>; Glenn Salsman <GlennS@integritybuild.com>

Sent: Tuesday, August 30, 2011 6:50 AM

Subject: RE: RECAP LIST - Fireplace and Flooding, Contract Performance

Attached are the engineer's calculations and mark-ups for the chimney construction, the column in the living room and the opening for the stairway.

I was not involved with the west wall, so I will need to check with Dick on what was done there.

Thanks,
Jeff

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "gschaecher@kasannlaw.com" <gschaecher@kasannlaw.com>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
Sent: Friday, September 28, 2012 10:23 AM
Subject: RE: Attic/thrid floor

Ms. Madison,

Go ahead and send us a copy of the purchase contract for the home and any manufacturer's installation instructions you obtained from them. Also, if you have any evidence whether the stairs from the second floor to the attic (or third floor) were installed at the factory, or whether they were installed as part of the set up of the home, please forward that to us.

Thanks,

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Friday, September 28, 2012 12:04 PM

To: Hodge, Vernon (DHCD)

Cc: Davis, Cindy (DHCD); gschaecher@kasannlaw.com; Thompson, Chris; McMahan, Alan (DHCD); Ralph Rinaldi; Rodgers, Emory (DHCD); Shelton, Bill (DHCD)

Subject: Re: Attic/thrid floor

I will mail you the document tomorrow as it is quite thick and I need to take it to a copy center.

- It is my feeling that ~~the Davis Letter should be rescinded~~ because it does not relate to the application of the code. Specifically, the reliance upon the erroneous interpretation of well founded Virginia law is the main problem warranting the appeal. DHCD cannot re-interpret law without such authority having been bestowed upon them by the G.A. The letter essentially states that Integrity is out of business and therefore DHCD will do nothing. In fact, Integrity only changed their name which does not relieve an entity or persons of liability. Having said that, it is important to continue to work through the applicable code sections.

I have attached the Performance Agreement and Contract. The contract price was negotiated directly with Milton, providing a substantial cash discount and signing the Performance Agreement as an inducement to sell the house. Any question as to the intent of the contract between the parties needs to be resolved by a court. In other words, DHCD cannot make any presumptions about the contract.

Mr. Rowe indicated that he did not know whether or not the stairs came "as attached". Can you kindly consider asking the parties (including NTA, Inc.) for any documentation they have regarding that question (13 VAC 5-91-270)? Milton's on-site staff member, Richie, may be able to confirm. The Final Quote DOES NOT include the stairs as "shipping loose" Cindy has a copy of this document. It is my position that 13 VAC 5-91-80 is applicable if the stairs were set on-site. Because, at a minimum, setting the stairs made the building more unsafe, and further then, by demolishing the wall (by Milton staff), leaving hot dangling electric wires coming from the third floor and open and unguarded drops to the stairwells. ~~At a local level, an NOV should be issued:~~

103.5 Reconstruction, alteration or repair. The following criteria is applicable to reconstruction, alteration or repair of

buildings or structures: 1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.

And, for the documentation related to the inspection process, as provided for in 13 VAC 5-91-250? It should be noted, the "approved design(s)" was also stamped and certified that it complied with applicable code (not just limited to what was manufactured at the plant). The design, as a whole, was erroneously certified.

Thank you very much for your consideration and assistance.

Milari Madison

PERFORMANCE AGREEMENT

This Performance Agreement ("Agreement") is made as of MAY 4, 2011, by and between Milari Madison (the "Customer") and Integrity Building Systems ("Integrity").

Background

Customer has ordered a modular building through Integrity's distributor, Convenient Installations, under CONTRACT FOR MODULAR # C-484709 attached hereto as Attachment A. Integrity is the builder of the modular units and wishes to stand behind and guarantee the performance under CONTRACT FOR MODULAR # C-484709 in order to provide the Customer assurances that modular units are manufactured, delivered and set on the foundation as provided in CONTRACT FOR MODULAR # C-484709.

Agreement

NOW THEREFORE, in consideration of the mutual promises and undertakings set forth herein, and for other good and valuable consideration, including the payments made to Convenient Installations under CONTRACT FOR MODULAR # C-484709, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Should Convenient Installations fail to materially perform any of its obligations under CONTRACT FOR MODULAR # C-484709, upon the reasonable request of the Customer, Integrity shall perform without additional charge to Customer, those obligations, including but limited to delivering and setting on the foundation the modular units and panels.

2. **LAW AND VENUE.** This Agreement, and any and all claims arising under this Agreement, shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard to its conflicts of law provisions. For the adjudication of any and all disputes no matter their nature arising under this Agreement, the parties hereby consent to personal jurisdiction and venue in the state and federal courts sitting in Northern Virginia, including but not limited to courts sitting in Loudoun County, Fairfax County and Alexandria, Virginia.

3. **COUNTERPARTS.** This Agreement may be signed in any number of counterparts with the same effect as if the signature on each such counterpart were upon the same instrument, and a facsimile transmission or electronic delivery (e.g., .pdf) of a manual signature shall be deemed to be an original signature.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and delivered as of the date above.

Milari Madison

Integrity Building Systems

Milari Madison

By: Martin Sickle

... Martin Sickle

By: Glenn Salsman, Controller

..... Glenn Salsman

McMahan, Alan (DHCD)

From: Hunter Madison [huntermadison2002@yahoo.com]
Sent: Friday, September 28, 2012 12:25 PM
To: Hodge, Vernon (DHCD)
Cc: Davis, Cindy (DHCD); ""gschaecher@kasannlaw.com""; Chris""; McMahan, Alan (DHCD); Ralph Rinaldi; Rodgers, Emory (DHCD); Shelton, Bill (DHCD); Leatherby, Eric (DHCD)
Subject: Fw: Stairs not stated as shipping loose

Mr. Hodge,

I tried to send the final price quote, but the file is too big so it will not go through. I know Ms. Davis has a copy of the quote. I will mail a copy with the other documents this weekend.

The stairs are ~~not included~~ as "shipping loose".

----- Forwarded Message -----

From: Hunter Madison <huntermadison2002@yahoo.com>
To: ""Hodge, Vernon (DHCD)"" <Vernon.Hodge@dhcd.virginia.gov>
Cc: ""Davis, Cindy (DHCD)"" <Cindy.Davis@dhcd.virginia.gov>; ""gschaecher@kasannlaw.com"" <gschaecher@kasannlaw.com>; ""Thompson, Chris"" <Chris.Thompson@loudoun.gov>; ""McMahan, Alan (DHCD)"" <Alan.McMahan@dhcd.virginia.gov>; Ralph Rinaldi <ralph@cowleslaw.com>; Emory <emory.rodgers@dhcd.virginia.gov>; Bill <bill.shelton@dhcd.virginia.gov>; Eric (DHCD) Leatherby <eric.leatherby@dhcd.virginia.gov>
Sent: Friday, September 28, 2012 12:10 PM
Subject: Stairs not stated as shipping loose

This is the final quote that does not include the stairs as "shipping loose". The document was too big to attach with the previous e-mail.

Milari

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "gschaecher@kasannlaw.com" <gschaecher@kasannlaw.com>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
Sent: Friday, September 28, 2012 12:47 PM
Subject: RE: Attic/thrid floor

Ms. Madison,

The other parties are aware of the controversy concerning whether the attic stairs were installed at the factory or shipped to the site, or fabricated on site, so if they want to provide us with any information they have, they have already been given the opportunity to do so. If not, then we will leave that issue as an unknown and address it from all perspectives if anything moves forward concerning that issue.

Ms. Davis is free to modify her decision at any time, but staff of the Review Board has no authority to ask her to rescind it.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Sunday, September 30, 2012 8:23 AM

To: Hodge, Vernon (DHCD)

Cc: Davis, Cindy (DHCD); gschaecher@kasannlaw.com; Thompson, Chris; McMahan, Alan (DHCD); Ralph Rinaldi

Subject: Re: Attic/thrid floor

It is my understanding that the TRB can issue subpoenas pursuant to 36-115 "in like manner as a circuit court". This allows for duces tecum.

I am sure that we remember Mr. Rowe reported to Vernon Hodge that he did not know whether or not the stairs were attached. I am mailing the "Installation Systems and Procedures for Setting Modular Housing" approved by NTA Inc. March 7, 2011. No where is it suggested that the stairs are shipped loose, nor does the quote sheet state they are shipped loose. The plan, as stamped as being code compliant (13 VAC 5-91-250) and the stairs to the third floor shown in the plan by NTA Inc, states that the basement stairs are the "responsibility of the builder" and that they need to comply with code. No such statement is related to the stairs to the third floor. All the plan states is "railing on site by others", the landing area. It should be noted that the plans clearly state the builder is "Convenient Installation" and that the "Designer/Contractor" is "Integrity Building Systems, Inc".

Because DHCD regulates CAAs it is reasonable to request this information because NTA, Inc. represents to DHCD that they require or have certain procedures in place in order to be listed as a CAA, a function to protect the health, safety and welfare of the public. Found in the installation procedures manual as being mailed, it states; "Caution: Failure to fasten the sheathing to fixed portion of truss will result in a weakened roof condition and create a dangerous and unsightly ridge across roof". At the conference and in writing, I have noted this ridge.

As it is a decision made by DHCD and the TRB as to whether or not they will request certain documentation, I can only suggest that through subpoena or voluntarily NTA, Inc. and/or Milton should be required to provide the following:

1. any inspection/certification documents related to ISSOP 3.3.3 "...Production of significant new designs, such as changing from one-story to two-story modular." In this case, for a three story model (per ICC definition of a floor)
2. Omitted documentation related to ISSOP, "Frequency" "5.4.1" (at page 1 of 5)
3. Copy of the contract between NTA and now Milton
4. NTA, Inc. IM 2.1, "completed unit files"

Section 202 identifies an attic as that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered

occupiable. Where this area has a floor, it would be defined as a story. A common misuse of terminology is the designation of a space as a habitable or occupiable area.



Project Address:

Milari Madison
40153 Janney Street
Waterford, VA 20197
540-882-3160

The upper portion of the existing roof structure on this house, front and back, is not in plane with the lower and middle portion of the roof. The upper portion has approximately 3 1/2" less pitch in 4-6' than the lower and middle. To see what might be needed to fix this issue, we would need to start by cutting holes in the drywall ceiling to look inside the attic.

The budget is 60,000-75,000. This includes:

- > demo metal of main section only, drywall
- > re-frame the roof ridge to straighten the run
- > re-work the dormers, trim, siding
- > new metal roof front and back
- > reinsulate attic, repair drywall
- > paint interior and exterior
- > gutters

That's a pretty abbreviated Scope of Work, but once I get to look inside the attic by cutting a couple holes in the drywall, then I can get more detailed; and then I can get the price more accurate. Also, you have power vents on the roof, but no gable or soffit vents -- we need to address this.

Please let me know how you would like to proceed.

Thank You,

John E. Gannaway, President
john@hisconstruction.net
hisconstruction.net

McMahan, Alan (DHCD)

From: Hunter Madison [huntermadison2002@yahoo.com]
Sent: Monday, October 01, 2012 7:44 AM
To: Davis, Cindy (DHCD); "gschaecher@kasannlaw.com"; "Thompson, Chris"; McMahan, Alan (DHCD); Ralph Rinaldi; Hodge, Vernon (DHCD)
Subject: Fw: final price
Attachments: madison final 5-5.xlsx

This file is smaller but shows what was shipped loose, not the stairs. Prepayment discount negotiated with Milton directly.

----- Forwarded Message -----

From: Darren <darren123@frontier.com>
To: malarie madison <huntermadison2002@yahoo.com>
Sent: Thursday, May 5, 2011 11:44 AM
Subject: final price

here's the new quote ill call you in a few and tell you what I had done with the plan credit. look in the seals section

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Tuesday, October 02, 2012 7:24 AM
To: Hodge, Vernon (DHCD); Calhoun, Steve (DHCD)
Cc: Davis, Cindy (DHCD); "gschaecher@kasannlaw.com"; "Thompson, Chris"; McMahan, Alan (DHCD);
Ralph Rinaldi; Leatherby, Eric (DHCD)
Subject: Sign in sheet, copy request

Dear Mr. Hodge,

Can you kindly e-mail me a copy of the sign-in sheet passed around at the conference last week in which Richard Rowe and Martin Sickle were present.

Thank you.

Milari Madison

From: Hodge, Vernon (DHCD) [<mailto:Vernon.Hodge@dhcd.virginia.gov>]
Sent: Tuesday, October 02, 2012 8:02 AM
To: Hunter Madison
Cc: Davis, Cindy (DHCD); Gina Schaecher; Thompson, Chris; McMahan, Alan (DHCD)
Subject: RE: Attic/thrid floor

Ms. Madison,

The Review Board only has authority to compel the attendance of witnesses and that authority can only be acted upon at a meeting of the Review Board by the Review Board itself. Staff has no authority concerning that function.

While I haven't looked over the contract yet, it seems there is enough evidence to proceed under the assumption that the stairs between the second floor and the third floor/attic were installed at the factory. By this email, I'll ask for a position from Ms. Davis and Ms. Schaecher on this issue. If there is agreement that the stairs were installed at the factory, then the next issue is whether Ms. Davis determined that they were in violation of the IBSR. So we'll need clarification of that before determining if anything related to the stairs can move forward.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Gina Schaecher [<mailto:gschaecher@kasannlaw.com>]
Sent: Wednesday, October 03, 2012 3:01 PM
To: Hodge, Vernon (DHCD); Hunter Madison
Cc: Davis, Cindy (DHCD); Thompson, Chris; McMahan, Alan (DHCD)
Subject: RE: Attic/thrid floor

Mr. Hodge:

On behalf of Milton Home Systems, Inc. we write to acknowledge your request and to advise that we are preparing our response based upon a review of our records and interviews with our people. We plan to have a response to you by next week.

We thank you for your consideration and will contact you next week to confirm our position.

Best regards,

Gina L. Schaecher
Counsel for Milton Home Systems, Inc.

Gina L. Schaecher, Esquire
Kasimer & Annino, P.C.
7653 Leesburg Pike
Falls Church, Virginia 22043
(703) 893-3914 - Phone
(703) 893-6944 - Fax
gschaecher@kasannlaw.com

Leesburg Area Office
39959 Catocin Ridge Street
Paeonian Springs, VA 20129
(540) 882-4747

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged and confidential, the disclosure of which is prohibited under the applicable law.

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: Gina Schaecher <gschaecher@kasannlaw.com>
Cc: Hunter Madison <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "mmelis@oag.state.va.us" <mmelis@oag.state.va.us>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
Sent: Thursday, October 4, 2012 9:03 AM
Subject: RE: Attic/thrid floor

I am responding to this email to add Mike Melis to the list of persons copied on all correspondence. Mr. Melis is Ms. Davis' counsel from the Attorney General's Office. I have already forwarded to him all correspondence received since the informal fact-finding conference. Please copy Mr. Melis on any future correspondence. His email address is mmelis@oag.state.va.us.

Thank you,

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Friday, October 05, 2012 7:31 AM
To: Hodge, Vernon (DHCD); Calhoun, Steve (DHCD); Davis, Cindy (DHCD)
Cc: Thompson, Chris; mmelis@oag.state.va.us; McMahan, Alan (DHCD); Ralph Rinaldi; Rodgers, Emory (DHCD); Shelton, Bill (DHCD); Gina Schaecher
Subject: Re: Attic/thrid floor request for documents

Ms. Davis should rescind Letter

The Appeal is predicated on a re-interpretation by Ms. Davis of well-established Virginia law that we should easily agree was erroneous. The letter asserted that Milton was "out of business" and therefore, no action would be taken. I have provided documentation from Milton's former attorney that the company merely changed its name and confirmed by the PA Corporation Commission. Just because a company changes its name does not mean it is not responsible for liabilities or damages. Second, the notice of violation may be directed to a company or persons. Milton has the same employees/principals including Richard Rowe, Glenn Salsman and Marty Sickie (?).

Request for Documents

Please provide a copy of any certificate(s) in training/code for Ms. Cindy Davis and the commencement date of her taking the position at DHCD and as found in 13 VAC 5-91-200, any ICC or DHCD certifications in the appropriate subject area within 18 months of employment and maintain such certifications in an active status specific to NTA Inc. personnel as DHCD has on file.

I would like a copy of the sign in sheet in which Marty Sickie attended.

NTA Inc Should be a Party in this Matter

NTA Inc. should be a party in the correspondence and matter as they approved the design and erroneously certified that the data plate is correct and that the plans complied with the code (13 VAC 5-91-100.... and the proper label of the compliance assurance agency). In order to become a hand-selected CAA, NTA made representations to DHCD to ensure public safety and welfare. The processes and procedures, in this matter, were not followed.

For example, NTA Inc. had a clear duty to ensure that the plant was certified to build third floors as required in the materials submitted to DHCD. Milton failed to receive plant certification from NTA Inc. to produce, design or manufacture "three story" modular consistent with NTA Inc "Procedure For Continued Evaluation of Plant" 3.3.3, section 3 (2) page 1 of 3 and page 2.

13 VAC 5-91-245. Manufacturer's data plate. What is the (7) Design live roof load, design floor live load when the CAA failed to appropriately prepare plans that SHOW a third floor? (10) Special instructions for handling, installation and erection of the building;; however, a list of such instructions that are furnished separately with the building shall satisfy this requirement. The Instructions do not provide for the third floor.

13 VAC 5-91-250. Industrialized buildings eligible for registration. The design of the building has been found by a compliance assurance agency to be in full compliance with this chapter. ~~The design as approved by NTA Inc does not meet code.~~ Approved designs shall be evidenced by the stamp and date of approval on each design sheet by the compliance assurance agency. The compliance assurance agency has conducted any necessary testing and evaluation of the building and its component parts. ~~Where are the testing results for the third floor?~~ The building contains the appropriate evidence of such compliance through a label permanently affixed by the compliance assurance agency. ~~The site installation report (a document approved by NTA Inc and included as part of the procedures) was not completed by Milton, the company that assumed all responsibilities under the contract.~~

NTA Inc. had a clear duty that the "Installation Systems and Procedures For Setting Modular Housing", approved by NTA Inc. March 7, 2011, by Michael Faller, were followed and to "provide adequate follow-up" (13 VAC 5-91-180. Compliance assurance agencies...Application shall be made under oath and shall be accompanied by information and evidence that is adequate for the SBCAO to determine whether the applicant is specially qualified by reason of facilities, personnel, experience and demonstrated reliability to investigate, test and evaluate industrialized buildings for compliance with this chapter, and to provide adequate follow-up). Upon notifying NTA Inc of the problems, they state "will be rectified" in the materials supplied to DHCD, NTA Inc. failed to correct the problems.

Further, NTA Inc. failed to ensure that Milton complied with the "Procedures For Setting Modular Housing", as "approved" by NTA Inc. by way of, including but not limited to, the Site Installation and Inspection Report. In this case, Milton "wishes to stand behind and guarantee the performance under CONTRACT FOR MODULAR #C-484709 in order to provide Customer assurances that the modular units are manufactured, delivered, and set on the foundation as provided in CONTRACT FOR MODULAR #C-484709."

NTA represents to DHCD that they will rectify problems, but simply ignored that Milton failed to comply with the Integrity Building Systems, Inc. Installation Systems and Procedures For Setting Modular Housing, approved by NTA Inc. March 7, 2011, by Michael Faller, at #15, page 5, in numerous ways. Briefly and for example, "it is recommended that "every effort should be made to make weather tight the units as prescribed herein, immediately after erection." The structure took on a severe amount of water, resulting in mold, and extensive damage. The "Air Barrier And Insulation Inspection Procedures" as approved by NTA Inc, June 8, 2010 signed by Michael A. Faller were not followed, leaving a large opening from the second floor to the third floor that was essentially a chimney for all heat to exit. The set-up process was incomplete, lacking and remaining incomplete.

Under 13 VAC 5-91-160, the "ICC International Building Code – 2009 Edition", as adopted and incorporated as part of the Virginia Industrialized Building Safety Regulation, defines an attic as, in part, "space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story."

The dwelling was designed, manufactured, and delivered with a floor for the "attic" or third floor space, consisting of substantial plywood and intended access.

NTA Inc. certifies that the design complied with code but failed to certify that the plant could build third story units. Worse, found within the Integrity Building Systems, Inc. Installation Systems and Procedures for Setting Modular Housing, approved by NTA Inc. March 7, 2011", a procedure or plan to set "ranch units" and "two story units" found on page 27 ; no installation instructions exist for three story unit

13 VAC 5-91-200. Information required by the administrator. NTA Inc is required under 6. Procedures to deal with any defective buildings resulting from oversight and 3. Description of qualifications of personnel and their responsibilities, including an assurance that personnel involved in system analysis, design and plans review, compliance assurance inspections, and their supervisors comply with the requirements of the American Society for Testing and Material (ASTM) Standard Number E541-08: ~~THE DESIGN DID NOT MEET CODE~~

Abstract E541-08 (-10)

This specification covers agencies engaged in system analysis and compliance assurance for manufactured building. The administrative agency may utilize the services and facilities of building-evaluation agencies in carrying out its responsibilities for evaluating manufactured building systems. By providing criteria for evaluating these agencies, this standard's objective is to (1) utilize the voluntary standards system to provide a common base for the various regulatory approaches employed by the authorities having jurisdiction, and (2) make provision for varying degrees of optional technical support for the certification of manufactured building. The system analysis agency is responsible for determining whether a building system, ~~including the design~~, materials, and fabrication process, is in conformance with applicable requirements. The documents of the system analysis function are: product description document, compliance assurance manual, and installation documents. The general procedures for system analysis are presented in details. The tasks of system analysis project manager, technical staff evaluating building systems, technical staff evaluating compliance assurance manuals, and project manager evaluating building systems are presented in details. The requirements and criteria for compliance assurance agencies are presented. The task of compliance assurance agency project manager, technical staff preparing compliance assurance manuals, compliance assurance supervisor of inspection, and compliance assurance inspector are presented in details.



COMMONWEALTH OF PENNSYLVANIA
OFFICE OF ATTORNEY GENERAL

BUREAU OF CONSUMER PROTECTION
Harrisburg Office
15th Floor, Strawberry Square
Harrisburg, Pennsylvania 17120
(717) 787-9707
March 27, 2012

Milari Madison
40153 Jannay Street
Waterford, VA 20197

Re: Integrity Building Systems and Milton Home System
BCP-12-05-000656

Dear Ms. Madison:

The enclosed correspondence is related to the complaint you filed with the Bureau of Consumer Protection. Please provide us with a written response to this correspondence within twenty-one (21) days of the date of this letter so we may further evaluate your complaint.

If we do not hear from you in a reasonable amount of time, we will assume that you do not wish to pursue the matter further.

Thank you for your cooperation and attention to this matter.

Very truly yours,

A handwritten signature in cursive script that reads "Karen L. Wilkinson".

Karen L. Wilkinson
Agent

ml
Enclosure
25C

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Alexandria Division**

GRUNLEY WALSH U.S., LLC,

Plaintiff,

v.

LOREN RAAP, *et al.*,

Defendants.

Civil Action No.: 1:08-cv-446

MEMORANDUM OPINION

Plaintiff Grunley Walsh U.S., LLC ("Grunley Walsh U.S.") commenced this lawsuit against Defendants Loren Raap and G-W Management Services on May 6, 2008, after an employment relationship between high level executives at a construction company deteriorated. Defendants responded by filing their own counterclaims. Both Plaintiff and Defendants eventually moved for summary judgment. On April 14, 2009, the Court issued an Order denying Plaintiff's summary judgment motion and granting Defendants' in part. This Memorandum Opinion provides further reasoning for the Court's Order.

The issue presented herein is whether a contract barred Grunley Walsh U.S. from asserting the claims it filed in this action. The Court holds that Grunley Walsh U.S.'s claims are barred by contract, but only to the extent that they arose from facts occurring before November 6, 2007. However, for the reasons explained below, none of Grunley Walsh U.S.'s claims are supported by facts arising after November 6, 2007. Therefore, all of the claims asserted by Grunley Walsh U.S. in this action shall be dismissed in their entirety.

I. FACTS¹

i. *The Grunley Walsh and G-W Management Services Company Backgrounds*

The Grunley Walsh entity is a well known construction and renovation company based in the Washington, D.C. area. This company, along with its predecessors in interest, have performed work on high-profile structures such as the World War II Memorial, the Washington Monument, the White House, the Capitol, the Library of Congress, the Smithsonian Institution, and the National Gallery of Art.

In 1998, Kenneth Grunley, owner of Grunley Construction Co., and James Walsh, owner of William V. Walsh Construction, Inc., merged their two companies and formed Grunley Walsh Joint Venture, LLC ("Grunley Walsh Joint Venture"). In that same year, Mr. Grunley and Mr. Walsh hired Mr. Raap, a longtime government employee in the construction field, to be the president and general manager of their new company. Between 1998 and 2006, the Grunley Walsh entity underwent two name changes. First, Grunley Walsh Joint Venture became The Grunley Walsh, LLC, and then Grunley Walsh International, LLC ("Grunley Walsh International"). Throughout these changes, Mr. Grunley and Mr. Walsh maintained ownership of the Grunley Walsh entity.

Grunley Walsh historically has performed large-scale construction projects. In 2000, however, the company decided to enter the market for small business set-aside work. In pursuit of this goal, and in an attempt to comply with small business regulations, Mr. Raap, Mr. Grunley, and Mr. Walsh formed a new company called Grunley-Walsh Management Services, LLC. The ownership structure of this new company was as follows: Mr. Grunley and Mr. Walsh each owned 24.5%, and Mr. Raap owned 51%. In 2002, Mr. Grunley and Mr. Walsh sold their

¹ As required, the following facts are viewed in the light most favorable to the plaintiff. See *infra* Section III., Standard of Review.

interests in Grunley Walsh Management Services, LLC to Mr. Raap. Around this time, Mr. Raap, at the request of Mr. Grunley and Mr. Walsh, changed the name of Grunley-Walsh Management Services, LLC to G-W Management Services, LLC ("GWMS") to avoid name confusion and potential small business regulation violations.

Mr. Raap maintained his position as President and General Manager of the Grunley Walsh entity while he owned and operated GWMS. Additionally, with the consent of Mr. Grunley and Mr. Walsh, Mr. Raap ran GWMS out of the Grunley Walsh offices, utilizing Grunley Walsh personnel and office equipment. GWMS and Grunley Walsh executed a contract to govern this dynamic. The parties operated under this arrangement until Mr. Raap moved his GWMS company to a different location in January of 2007.²

Mr. Grunley and Mr. Walsh eventually became concerned that Mr. Raap was engaging in improper conduct while operating GWMS, such as using the GRUNLEY-WALSH mark without permission to acquire government construction projects for GWMS.³ Furthermore, Mr. Grunley and Mr. Walsh believed that Mr. Raap intentionally diverted business opportunities from Grunley Walsh to GWMS. As a result, Mr. Grunley and Mr. Walsh fired Mr. Raap from his position of President and General Manager of Grunley Walsh in May of 2007.

ii. The Membership Interest Purchase Agreement

² Mr. Raap continued to work as President and General Manager of Grunley Walsh after this move.

³ Specifically, Grunley Walsh alleges that Raap and GWMS willfully and repeatedly used the GRUNLEY-WALSH mark in all of its email communications through January 2007, submitted proposals with government agencies in the name of "Grunley Walsh Management Services," signed subcontracts with subcontractors identifying the prime contractor as "Grunley Walsh," and otherwise made liberal use of the GRUNLEY-WALSH mark in connection with GWMS's construction and renovation services.

In 2006, Mr. Grunley and Mr. Walsh began exploring a sale of the Grunley Walsh entity to First Kuwaiti, a construction company that had been involved in building U.S. embassies overseas.⁴ On December 23, 2006, the ownership of The Grunley Walsh, LLC and Mr. Farah, a representative for First Kuwaiti, reached a deal called the Membership Interest Purchase Agreement. The deal was intended, in large part, to transfer the international segment of the Grunley Walsh entity to Mr. Farah, and leave the domestic business with Mr. Grunley and Mr. Walsh.

In order to accommodate this international and domestic division of property, Mr. Grunley and Mr. Walsh restructured their corporate framework. First, they changed the name of The Grunley Walsh, LLC to Grunley Walsh International. Then they used Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co. to create a new entity called Grunley Walsh U.S.⁵ The parties intended, for the most part, to allocate the international business to Grunley Walsh International and the domestic business to Grunley Walsh U.S.

The closing date for the Membership Interest Purchase Agreement was November 6, 2007. It contained a "Retained Property" provision listing which property was to remain with Grunley Walsh International.⁶ In other words, the Retained Property provision provided the interests purchased by Mr. Farah. The property not included in the Retained Property provision was to be transferred back to Grunley Walsh U.S. through an assignment clause.⁷

⁴ At this point in time, the Grunley Walsh entity was operating under The Grunley Walsh, LLC name.

⁵ Mr. Grunley and Mr. Walsh formed Grunley Walsh U.S. on paper on or about December 15, 2006 in anticipation of entering into the Membership Interest Purchase Agreement, but the entity did not begin operation until January 1, 2007.

⁶ See *Schedule 1.1*, MEMBERSHIP INTEREST PURCHASE AGREEMENT, A41 (November 6, 2007).

⁷ See *Assignment and Assumption*, MEMBERSHIP INTEREST PURCHASE AGREEMENT, A72 (November 6, 2007) ("[E]ffective as of the date hereof, [Grunley Walsh International]

Importantly, the Membership Interest Purchase Agreement contained a liability release. This specific provision was called the "Sellers' Release," and was signed by both Mr. Grunley and Mr. Walsh. The release identifies the "Sellers" as Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., the two entities owned by Mr. Grunley and Mr. Walsh, respectively. The release also refers to Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co. as the sole owners of the "Company," which is Grunley Walsh International. The "Buyer" is Robert Farah. The Sellers represented in the release language itself that the release is supported by consideration.

The Sellers' Release states, in pertinent part, the following:

Each Seller, on behalf of itself and each of its legal representatives, affiliates, successors and assigns, and each of such legal representatives', affiliates', successors' and assigns' Representatives (collectively, the "Related Parties"), hereby releases and forever discharges Buyer, the Company and each of their respective individual, joint or mutual, past, present and future Representatives, affiliates, stockholders, members, controlling persons, successors and assigns (individually, a "Releasee" and collectively, "Releasees"), from any and all claims, demands, Proceedings, causes of action, Orders, obligations, contracts, agreements, debts and liabilities whatsoever, whether known or unknown, suspected or unsuspected, both at law and in equity, which such Seller or any of its Related Parties now has, has ever had or may hereafter have against the respective Releasees arising at any time prior to the Closing or on account of or arising out of any matter, cause or event occurring at any time prior to the Closing, including, but not limited to, any rights to indemnification or reimbursements from the Company, whether pursuant to the Organizational Documents, contract or otherwise and whether or not relating to claims pending on, or asserted after, the Closing Date; provided however, that nothing contained herein shall operate to release any obligations of Buyer arising under the Agreement or the Ancillary Agreements, including the Closing

hereby sells, conveys, assigns, transfers, and delivers to [Grunley Walsh U.S.], and [Grunley Walsh U.S.] hereby purchases, accepts and takes from [Grunley Walsh International] all right, title and interest in and to all of the contracts and assets of [Grunley Walsh International] except for the Retained Property").

Letter Agreement dated November 6, 2007. Each Seller hereby represents and warrants that it has no knowledge of any right to indemnification from the Company as of the date of this Release, except as stated in the Closing Letter Agreement dated November 6, 2007.

Each Seller, on behalf of such Seller and each of such Sellers' Related Parties, hereby irrevocably covenants to refrain from, directly or indirectly, asserting any claim or demand, or commencing, instituting or causing to be commenced, any proceeding of any kind against any Releasee based upon any matter released hereby.

Sellers' Release, MEMBERSHIP INTEREST PURCHASE AGREEMENT (November 6, 2007).

Some terms in the Sellers' Release are defined in other areas of the Membership Interest Purchase Agreement. Specifically, "Representatives" is defined as follows: "Representative" means with respect to a particular Person, any director, officer, employee, agent, consultant, advisor, or other representative of such Person, including legal counsel, accountants, and financial advisors." "Person" means "any individual, corporation (including any non-profit corporation), general or limited partnership, limited liability company, joint venture, estate, trust, association, organization, labor union, or other entity or Governmental Body."⁸

iii. Procedural Posture

Grunley Walsh U.S. filed its initial Complaint against Mr. Raap and GWMS on May 6, 2008. On August 19, 2008, however, Grunley Walsh U.S. filed an Amended Complaint. This Amended Complaint asserted the following claims:

Count I: Federal Unfair Competition under 15 U.S.C. § 1125(a);

Count II: Federal Trademark Infringement under 15 U.S.C. § 1125(a);

Count III: Common Law Trademark Infringement;

⁸ These definitions are found in the "1. Definitions" section of the Membership Interest Purchase Agreement.

Count IV: Common Law Unfair Competition;

Count V: Breach of Duty of Loyalty and Usurpation of Corporate Opportunities;

Count VI: Common Law Fraud;

Count VII: Negligent Misrepresentation;

Count VIII: Unjust Enrichment; and

Count IX: Breach of Contract

On February 10, 2009, Grunley Walsh U.S. voluntarily dismissed Counts VI and VII with prejudice. Mr. Raap and GWMS responded to Grunley Walsh U.S.'s Amended Complaint by filing Counterclaims of their own. Specifically, Mr. Raap and GWMS asserted the following:

Counterclaim Count I: Tortious Interference with Contract

Counterclaim Count II: Tortious Interference with Business Expectations

Counterclaim Count III: Attorneys' Fees

Both sides moved for summary judgment in February 2009. As mentioned above, the Court's April 14, 2009 Order denied Grunley Walsh U.S.'s motion and granted Mr. Raap and GWMS' in part.

II. JURISDICTION AND VENUE

This Court has jurisdiction over the claims in this action under 28 U.S.C. § 1331 (federal question jurisdiction) and 28 U.S.C. § 1367 (supplemental jurisdiction). Furthermore, the parties agree that this Court has personal jurisdiction over the Defendants, and that venue in the Eastern District of Virginia is proper.

III. STANDARD OF REVIEW

As mentioned above, the Court issued its April 14, 2009 Order in response to summary judgment motions. Summary judgment should be granted where the evidence in the record “show[s] that there is no genuine issue as to any material fact and that the movant is entitled to a judgment as a matter of law.” Fed. R. Civ. P. 56(c); *see Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). As the Supreme Court has explained, a fact is “‘material’ only if it might affect the outcome of the suit.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute over an issue of material fact is “genuine” if “the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Id.* Finally, in making a summary judgment determination, the court must view the facts in the light most favorable to the nonmoving party. *Matsushita Elec. Indus. v. Zenith Radio*, 475 U.S. 574, 587-88 (1986).

IV. ANALYSIS

The Court will first address why the Sellers’ Release bars Grunley Walsh U.S. from filing claims against Mr. Raap and GWMS to the extent those claims arose from facts occurring before the November 6, 2007 closing date. The Court shall also address, in this section, why none of Grunley Walsh U.S.’s claims can be supported by facts occurring after November 6, 2007.

A. Whether the Sellers’ Release issue was Pled Properly in this Case

Grunley Walsh U.S. argues that Mr. Raap and GWMS waived their ability to rely on the Sellers’ Release because the “release” affirmative defense was not pled in the answer. *See* Fed. R. Civ. P. 8(c) (requiring a party to “affirmatively state any avoidance or affirmative defense, including . . . release” at the pleading stage). Grunley Walsh U.S. asserts that Mr. Raap and GWMS’s failure to properly plead the release defense prevented it from obtaining adequate

notice that the Sellers' Release would be at issue in this suit. *See* 5 Charles Alan Wright & Arthur R. Miller, *Federal Practice and Procedure* § 1274 (3d ed. 2004) ("an affirmative defense . . . will be held to be sufficient . . . as long as it gives the plaintiff fair notice of the nature of the defense.").

Indeed, Mr. Raap and GWMS did not specifically plead "release" as an affirmative defense in their answer and never sought to amend that answer. However, they did plead in their Sixth Affirmative Defense that "Plaintiff's common law tort claims are barred by contract." *See Virginia Impressions Prods. Co. v. SCM Corp.*, 448 F.2d 262, 265 (4th Cir. 1971) ("A release is just another contract in which the intent of the parties is to be derived from the face of the instrument viewed as a whole."). Mr. Raap and GWMS also pled in their Thirteenth Affirmative Defense that "[p]laintiff's claims . . . are barred by accord and satisfaction."⁹ The Court believes that these affirmative defenses pled by Mr. Raap and GWMS put Grunley Walsh U.S. on sufficient notice, especially under the lenient notice-pleading standards of the Federal Rules of Civil Procedure. *See* Fed. R. Civ. P. 8(e), (f) (providing that "[n]o technical forms of pleading or motions are required" and that "[a]ll pleadings shall be so construed as to do substantial justice"). Specifically, these defenses convey to Grunley Walsh U.S. that Mr. Raap and GWMS believed a contract existed that barred the claims filed in this suit. Critically, the contract that ended up having this effect, the Sellers' Release, was part of the Membership Interest Purchase Agreement, which was executed by Grunley Walsh U.S. itself and signed by Mr. Grunley and Mr. Walsh. This fact substantially strengthens the nexus between the two defenses asserted in

⁹ *See* BLACK'S LAW DICTIONARY 17 (8th ed. 2004) (defining "accord and satisfaction" as "[a]n agreement to substitute for an existing debt some alternative form of discharging that debt, coupled with the actual discharge of the debt by the substituted performance").

the answer, and Grunley Walsh U.S. knowing of the contract to which those defenses refer. Because the defenses pled in the answer adequately put Grunley Walsh U.S. on notice that the Sellers' Release could be at issue in this suit, the Court concludes that Mr. Raap and GWMS sufficiently pled the release issue in their answer.

Even if the Sellers' Release defense was not pled properly in the answer, the law still permits the Court to address this issue because of the subsequent developments in this case. "Generally, when a party fails to raise an affirmative defense in its answer, it waives the defense." *Vermont Mut. Ins. Co. v. Everette*, 875 F.Supp. 1181, 1189 (E.D. Va. 1995). "However, the majority of federal circuit courts have held that when a defendant raises an affirmative defense in a manner that does not result in unfair surprise to the other party, noncompliance with Rule 8(c) will not result in waiver of the affirmative defense." *Id.* (citing *Camarillo v. McCarthy*, 998 F.2d 638, 639 (9th Cir.1993)); *see also Holland v. Cardiff Coal Co.*, 991 F.Supp. 508, 515 (S.D. W. Va. 1997) (quoting *Allied Chemical Corp. v. Mackay*, 695 F.2d 854, 855-56 (5th Cir.1983)) (Where an affirmative defense "is raised in the trial court in a manner that does not result in unfair surprise . . . technical failure to comply precisely with Rule 8(c) is not fatal."); *Steinberg v. Columbia Pictures Indus., Inc.*, 663 F.Supp. 706, 715 (S.D.N.Y.,1987) (citing *Rivera v. Anaya*, 726 F.2d 564, 566 (9th Cir.1984)) ("Although Fed.R.Civ.P. 8(c) generally requires affirmative defenses to be pleaded, courts have been more lenient in the context of motions for summary judgment. '[A]bsent prejudice to the plaintiff, a defendant may raise an affirmative defense in a motion for summary judgment for the first time.'").

Indeed, the Fourth Circuit addressed a qualified immunity affirmative defense not filed in the answer where the plaintiff suffered no prejudice from the later filing and was provided with

an opportunity to brief the relevant issue before the appellate court. *Ridpath v. Bd. of Governors Marshall Univ.*, 447 F.3d 292, 305-306 (4th Cir. 2006). The Court in *Ridpath* explained that consideration of the untimely pled defense served the strong public policy of economizing the use of judicial resources and avoiding relitigation. *Id.* On the other hand, the Fourth Circuit declined to address a qualified immunity defense when the defense was not pled until the defendant's summary judgment reply brief. *See Noel v. Artson*, 297 Fed. Appx. 216, 219 (4th Cir. 2008) (unpublished). The Court in *Noel* reasoned that a defense pled so late in the process prejudiced the plaintiffs because they "had no chance to address the issue in their opposition to summary judgment." *Id.* Furthermore, the Court explained, "Considering an argument advanced for the first time in a reply brief . . . entails the risk of an improvident or ill-advised opinion" *Id.* (citing *McBride v. Merrel Dow & Pharms., Inc.*, 800 F.2d 1208, 1211 (D.C. Cir. 1986)).

Here, Grunley Walsh U.S. would not be prejudiced or unfairly surprised even if Defendants' answer failed to put it on adequate notice of the Sellers' Release issue. Specifically, Mr. Raap and GWMS took steps very early in the litigation that should have made Grunley Walsh U.S. aware that the Sellers' Release could be an issue in the suit. Indeed Mr. Raap and GWMS subpoenaed Mr. Farah near the beginning of the discovery period and requested that he produce all documents relating to his acquisition of Grunley Walsh International. This request clearly could have been conceived as covering the Membership Interest Purchase Agreement and Sellers' Release. Then, nearly a month before Mr. Raap and GWMS filed their brief in support of their motion for summary judgment, they submitted an exhibit list to this Court naming the Sellers' Release as an exhibit. This exhibit list was available to Grunley Walsh U.S. Finally, and most importantly, Mr. Raap and GWMS asserted their "Sellers' Release" defense in their brief in support of their motion for summary judgment. Grunley Walsh U.S. then replied in

detail to the Sellers' Release argument, dedicating over five pages to the matter in its opposition brief. For these reasons, the Court finds that even if the release defense was not pled properly in the answer, the manner in which the defense was raised and addressed by the parties in this case was not prejudicial to Grunley Walsh U.S.¹⁰

Because Mr. Raap and GWMS adequately pled the release issue in the answer, and since Grunley Walsh U.S. was not prejudiced or unfairly surprised by the Court's consideration of the release issue at this stage of the litigation, the Court shall permit Mr. Raap and GWMS to rely on the Sellers' Release in this case.

B. Contract Law Applied to the Sellers' Release¹¹

A valid contract requires "a bargain in which there is a manifestation of mutual assent to the exchange and a consideration." Restatement (Second) of Contracts § 17 (1979); *see e.g., Audio Visual Assocs., Inc. v. Sharp Elec. Corp.*, 210 F.3d 254, 258 (4th Cir. 2000). Here, Mr. Grunley and Mr. Walsh promised Mr. Farah, *inter alia*, that they would sell Mr. Farah an ownership interest in their Grunley Walsh entity and that they would surrender their right to bring claims against certain entities and individuals. In return for these promises, Mr. Farah paid money. For these reasons, the Sellers' Release is a valid, bargained for contract supported by consideration.

Next, a "fundamental goal of contract law is to uphold clearly ascertained and negotiated contract rights." *Wallace Hardware Co., Inc. v. Abrams*, 223 F.3d 382, 400 (6th Cir. 2000) (citing *Tractor & Farm Supply, Inc. v. Ford New Holland, Inc.*, 898 F.Supp. 1198, 1203 (W.D.

¹⁰ For these same reasons, the Court would have granted a request by Mr. Raap or GWMS to amend the answer if such a request was made.

¹¹ Pursuant to the Virginia choice of law provision contained in the final paragraph of the Sellers' Release, Virginia law applies to the following interpretation.

Ky.1995). Furthermore, "[t]he law favors and encourages the resolution of controversies by contracts of compromise and settlement rather than by litigation; and it is the policy of the law to uphold and enforce such contracts if they are fairly made and are not in contravention of some law or public policy." *West v. Liberty Mutual Ins. Co.*, 1994 WL 399140 at *2 (4th Cir. 1994) (unpublished opinion) (quoting *Riggle v. Allied Chem. Corp.*, 378 S.E.2d 282 (W. Va. 1989)). The Sellers' Release was an agreement between parties with bargained-for consideration designed to prevent future litigation. Therefore, public policy supports upholding this agreement.

In Virginia, "[w]here an agreement is complete on its face and is plain and unambiguous in its terms, the court is not at liberty to search for its meaning beyond the terms of the instrument itself. This is so because the writing is the repository of the final agreement of the parties." *Lerner v. Guldesky Co.*, 230 Va. 124, 132 (1985). Therefore, parol evidence cannot be admitted in Virginia to interpret the meanings of clear and unambiguous contract terms. Here, the Court finds that the terms of the Sellers' Release are clear and unambiguous. As a result, it will not consider parol evidence in interpreting this provision. Finally, because the terms of the Sellers' Release are clear and unambiguous, the court will construe these terms "according to their plain meaning." See *Bridgestone/Firestone v. Prince William Square*, 250 Va. 402, 407 (1995).

C. Interpretation of the Sellers' Release

The Sellers' Release states, in pertinent part, that

Each Seller, on behalf of itself and each of its . . . affiliates, successors and assigns . . . hereby releases and forever discharges Buyer, the Company and each of their respective . . . past, present and future Representatives, affiliates, stockholders, members, controlling persons, successors and assigns . . . from any and all

claims, demands, Proceedings, causes of action, Orders, obligations, contracts, agreements, debts and liabilities whatsoever, whether known or unknown . . . arising at any time prior to the Closing . . . or arising out of any matter, cause or event occurring at any time prior to the Closing

Sellers' Release, MEMBERSHIP INTEREST PURCHASE AGREEMENT (November 6, 2007) (emphasis added).

In order for this release to bar any claims in this suit, Grunley Walsh U.S. must qualify as a releasor under the following clause: "[e]ach Seller, on behalf of itself and each of its . . . affiliates, successors and assigns" Furthermore, Mr. Raap and GWMS must qualify as releasees. This would occur if Mr. Raap and GWMS were characterized as "past, present, [or] future Representatives [or] affiliates" of "the Company," which is defined by the Sellers' Release as Grunley Walsh International. If these parties are covered by the Sellers' Release in this manner, then it necessarily follows that Mr. Grunley and Mr. Walsh, through their individual corporations,¹² promised Mr. Farah that Grunley Walsh U.S. would release Mr. Raap and GWMS "from any and all claims" arising from facts occurring before the closing date of November 6, 2007.

i. Grunley Walsh U.S. as Releasor

In this case, Grunley Walsh U.S. qualifies as a releasor because it is an "affiliate" of Sellers Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co. The Sellers' Release does not define "affiliate." However, "'[a]ffiliate' is a well-established term in the business context, and always denotes some significant degree of control between two entities." *Jermar, Inc. v. L.M. Commc'ns II of South Carolina, Inc.*, 181 F.3d 88, 1999 WL

¹² Those individual corporations are Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co.

381817 at *4 (4th Cir. 1999) (unpublished); *see e.g.*, BLACK'S LAW DICTIONARY 63 (8th ed. 2004) (defining "affiliate" as "[a] corporation that is related to another corporation by shareholdings or other means of control; a subsidiary, parent, or sibling corporation."). Usage of the term "affiliate" in Virginia accords with these control-based definitions. *See, e.g.*, VA. CODE § 3.2-3200 ("Affiliate' means any person or subsidiary thereof, who has, either directly or indirectly, actual or legal control over a distributor, whether by stock ownership or in any other manner."); VA. CODE § 13.1-729 ("Affiliate' means a person who directly or indirectly through one or more intermediaries controls, is controlled by, or is under common control with another person or is a senior executive officer thereof"). Nothing in the Sellers' Release or the Membership Interest Purchase Agreement convinces the Court that the application of a control-based definition of "affiliate" is improper.

Here, Mr. Grunley and Mr. Walsh used Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., respectively, to create Grunley Walsh U.S. *See Transfer Agreement*, Pl. Ex. 230 (January 1, 2007) ("the Member-Owners of [The Grunley Walsh, LLC], James V. Walsh Construction Co., LLC, and Kenneth M. Grunley Construction Co., LLC . . . have formed [Grunley Walsh U.S.] on December 15, 2006 for the purpose of performing construction contracting in the United States").¹³ Therefore, it is indisputable that "Sellers" Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., through Mr. Grunley and Mr. Walsh, owned and controlled Grunley Walsh U.S. This ownership and control serves as the basis for the Court's conclusion that Grunley Walsh U.S. is an "affiliate" of these Sellers. And because Grunley Walsh U.S. is an "affiliate" of the "Sellers," it qualifies as a releasor under the Sellers' Release.

¹³ As mentioned above, Mr. Grunley and Mr. Walsh created Grunley Walsh U.S. in anticipation of entering into the Membership Interest Purchase Agreement with Mr. Farah.

ii. GWMS and Mr. Raap as Releasees

Next, the Court must determine whether Mr. Raap and GWMS qualify as releasees under the Sellers' Release. First, GWMS qualifies as a releasee because it is a "past affiliate" of "the Company" Grunley Walsh International. This conclusion requires a careful tracking of the various Grunley Walsh entities involved in this suit. Mr. Grunley and Mr. Walsh formed Grunley Walsh Joint Venture in 1998 by merging Grunley Construction Co., Inc. and William V. Walsh Construction, Inc. This entity changed names two times while under the ownership of Mr. Grunley and Mr. Walsh: Grunley Walsh Joint Venture, LLC was changed to The Grunley Walsh, LLC in 2004, and then to Grunley Walsh International, LLC on December 15, 2006 in anticipation of entering into the Membership Interest Purchase Agreement. Mr. Grunley and Mr. Walsh maintained co-ownership of the Grunley Walsh entity until they resigned from Grunley Walsh International on November 6, 2007.¹⁴

Importantly, that Mr. Grunley and Mr. Walsh used various names to describe their Grunley Walsh entity is of no legal relevance in this matter. "The change of a corporation's name is not a change of the identity of a corporation and has no effect on the corporation's property, rights, or liabilities." *Alley v. Miramon*, 614 F.2d 1372, 1384 (5th Cir. 1980); *see also Wright-Caesar Tobacco Co. v. A. Hoen & Co.*, 54 S.E. 309, 311 (Va. 1906) (the Virginia Supreme Court did not permit a company to avoid liability by changing its name where the successor company was "but a continuation" of the first company); *Eng'g Assocs of New England, Inc. v. B&L Liquidating Corp.*, 345 A.2d 900, 903 (N.H. 1975) ("The fact that the

¹⁴ In addition to resigning as officers of Grunley Walsh International on November 6, 2007, Mr. Grunley and Mr. Walsh resigned their individual corporations, Kenneth M. Grunley Construction Co. and James V. Walsh Construction Co., respectively, from the membership of Grunley Walsh International. *See Resignation Letters*, Pl. Ex. 226, A153-A156 (November 6, 2007).

defendant has changed its corporate name does not relieve it of any liability it may have incurred under its contract with the plaintiff.”); 18A Am. Jur. 2d *Corporations* § 240 (2004); 18 C.J.S. *Corporations* § 140 (2007). Therefore, this Court views Grunley Walsh Joint Venture LLC, The Grunley Walsh LLC, and Grunley Walsh International LLC as one continuous corporate entity having the same corporate identity.¹⁵

This conclusion is critical in the present case. GWMS was formed in 2000, when the Grunley Walsh entity was operating under its Grunley Walsh Joint Venture name. Mr. Grunley and Mr. Walsh each owned 24.5% shares in GWMS until they sold those shares to Mr. Raap in 2002. As a result, between 2000 and 2002, it is indisputable that Mr. Grunley and Mr. Walsh had significant ownership in and control over GWMS, in addition to co-owning Grunley Walsh Joint Venture. Even more, GWMS and Grunley Walsh Joint Venture had a unique and close connection, since they both operated in the construction field and shared office space. The common ownership and close working connection between these two companies compel the Court to conclude that GWMS was, between 2000 and 2002, an affiliate of Grunley Walsh Joint Venture.¹⁶ It necessarily follows, then, that GWMS qualifies as a “past affiliate” of “the Company” Grunley Walsh International, since Grunley Walsh Joint Venture and Grunley Walsh

¹⁵ Worth noting is that the Court is not addressing the issue of whether changing the type of corporate *entity* has any legal effect (*e.g.*, changing from a limited liability corporation to a partnership). Instead, the Court is addressing the impact of a corporate name change only, where the type of corporate entity remains the same. Here, the Grunley Walsh entity’s limited liability corporation status remained constant while the entity changed names from Grunley Walsh Joint Venture, LLC to The Grunley Walsh, LLC, and then to Grunley Walsh International, LLC.

¹⁶ In reaching this conclusion, the Court considers the control-based definition of affiliate outlined above.

International are the same corporate entity. Because GWMS qualifies as a past affiliate of Grunley Walsh International, GWMS is a releasee under the Sellers' Release.¹⁷

Additionally, GWMS qualifies as an affiliate of Grunley Walsh International on other grounds. Between December 15, 2006, the date that Grunley Walsh International was formed, and May 30, 2007, the date Mr. Raap was fired, Mr. Raap served simultaneously as the owner of GWMS and President of Grunley Walsh International. Therefore, it is indisputable that a single individual possessed significant amounts of control over both companies during that span of time. It is this shared control that supports the conclusion that GWMS was a direct affiliate of Grunley Walsh International between December 15, 2006 and May 30, 2007. Therefore, GWMS qualifies as a releasee under the Sellers' Release on these grounds, as well.

Finally, Mr. Raap unquestionably qualifies as a "past Representative" of all three Grunley Walsh iterations that existed between 1998 and 2007, including Grunley Walsh International (i.e. "the Company").¹⁸ Specifically, Mr. Raap began working as President of Grunley Walsh Joint Venture in 1998 and was serving in this same capacity when Grunley Walsh International was formed on December 15, 2006.¹⁹ Mr. Raap continued working as President of Grunley Walsh International for over five months until he was fired on May 30, 2007. For these reasons, Mr. Raap is covered by the "past Representative" language and thus qualifies, individually, as a releasee under the Sellers' Release.

¹⁷ The Court believes that this result is legally unavoidable. Restricting the "past, present and future . . . affiliate[]" language to include only affiliates of Grunley Walsh International LLC and not Grunley Walsh Joint Venture LLC or The Grunley Walsh LLC would exalt form over substance and permit the Grunley Walsh entity to evade the legal consequences of its corporate actions through corporate name changing.

¹⁸ "Representative" is defined in the Membership Interest Purchase Agreement to mean "a particular Person, any director, officer, employee, agent, consultant, advisor, or other representative of such Person, including legal counsel, accountants and financial advisors."

¹⁹ See *Articles of Amendment of The Grunley Walsh, LLC*, Pl. Ex. 226 (December 15, 2006).

iii. Scope and Effect of the Sellers' Release on the Claims of this case.

In sum, Grunley Walsh U.S. qualifies as a releasor under the Sellers' Release, and Mr. Raap and GWMS qualify as releasees. In the Release, the releasors (defined in the agreement as "Related Parties") released and discharged the releasees "from any and all claims" arising from facts occurring before the closing date of November 6, 2007. The "any and all claims" language is extremely broad, and is subjected to only a minor qualification, which is that the release agreement does not release Mr. Farah and FJK Holdings ("the Buyer") from obligations arising under the Membership Interest Purchase Agreement itself. This qualification, however, has no impact in the present case because it only applies to the "Buyer" Mr. Farah and FJK Holdings, and not to GWMS or Mr. Raap.

Grunley Walsh U.S. argues that many of the acts committed by Mr. Raap were outside the scope of his employment with Grunley Walsh International, and that these acts are not covered by the Sellers' Release. The Court disagrees with Grunley Walsh U.S.'s argument. The Sellers Release contains no language supporting, or even hinting, that the Sellers Release should be restricted in this manner. Indeed, the only qualification in the extremely broad Sellers' Release is outlined in the previous paragraph and makes no mention of a scope of employment limitation. Because the only qualification in the plain language of the release has no impact on Mr. Raap or GWMS, and since the release broadly releases the parties from "any and all claims," the Court holds that Grunley Walsh U.S. released GWMS and Mr. Raap from the claims it filed in this suit, to the extent those claims arose from facts occurring on or before the closing date of November 6, 2007.

D. Claims arising from facts after November 6, 2007

Consistent with its holding in this Memorandum Opinion, the Court issued an Order on April 14, 2009 dismissing Grunley Walsh U.S.'s Counts I-V and VIII-IX to the extent that those claims arose from facts occurring on or before November 6, 2007.²⁰ In that Order, the Court instructed the parties to file written responses defining which, if any, of Counts I-V or VIII-IX were supported by facts arising after November 6, 2007.

Mr. Raap and GWMS's response argued that all of these counts were based on facts occurring on or before November 6, 2007. Grunley Walsh U.S. agreed with this conclusion as it pertains to Counts V, VIII, and IX. Therefore, summary judgment shall be granted in full on these three claims. However, Grunley Walsh U.S. presented facts relevant to Counts I-IV (the federal and state trademark and unfair competition claims) that occurred after November 6, 2007. Specifically, Grunley Walsh U.S. explained that third parties were confused *after* November 6, 2007 because of Mr. Raap and GWMS's infringing uses of the GRUNLEY WALSH mark that took place *before* November 6, 2007.

Even if this is true, Counts I-IV would not be able to survive summary judgment. In order for Grunley Walsh U.S. to succeed on its federal and state trademark and unfair competition claims, it must be able to support all claim elements with facts in the record arising after November 6, 2007. One essential element common to each trademark and unfair competition claim in this case is the following: the defendants must actually *use* the plaintiff's mark. *See, e.g., Utah Lighthouse Ministry v. Found. for Apologetic Info. and Research*, 527 F.3d 1045, 1050 (10th Cir. 2008) (federal trademark infringement and unfair competition claims brought under 15 U.S.C. § 1125(a) have "virtually identical elements." One such element is that

²⁰ Pursuant to Grunley Walsh U.S.'s Stipulation of Dismissal, the Court also dismissed Counts VI and VII in their entirety.

the defendants use the trademark in connection with goods or services.); *Louis Vuitton Malletier v. Haute Diggity Dog*, 507 F.3d 252, 259 (4th Cir. 2007) (to succeed on a federal trademark infringement claim, plaintiff must prove that defendant used a reproduction, counterfeit, copy, or colorable imitation of that mark in commerce without plaintiff's consent). *Int'l Income Props., Inc. v. Combined Props. Ltd. P'ship.*, 1987 WL 488607 at *1 (Va. Cir. Ct. 1987) (in order for a defendant to be liable for unfair competition with respect to a trade name, that defendant must "unfairly use[] the name or a simulation of it."); *Brittingham v. Jenkins*, 914 F.2d 447, 455 (4th Cir. 1990) (when analyzing a common law trademark infringement claim, the Court explained: "[a]s a general rule, the use of an appropriated mark without the permission of its owner . . . constitutes an infringement if the unauthorized use is likely to result or has resulted in confusion, mistake or deception on the part of the consumer.").

Here, as Grunley Walsh U.S. admits, none of the infringing uses that it accuses Mr. Raap and GWMS of committing occurred after November 6, 2007. Therefore, the "use" element common to the trademark and unfair competition claims in this case are not met. Accordingly, summary judgment shall be granted in full on the trademark and unfair competition claims (Counts I-IV).

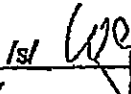
V. CONCLUSION

For the reasons stated in the Sellers' Release portion of this Memorandum Opinion (*i.e.*, Section IV. A-C), Plaintiff's Counts I-V and VIII-IX were dismissed on April 14, 2009 to the extent that these counts arose from facts occurring before November 6, 2007. For the reasons stated in Section IV.D, none of Plaintiff's claims can succeed based on the facts in the record arising after November 6, 2007. Therefore, Defendants' motion for summary judgment shall be

granted in full on Counts I-V and VIII-IX. Accordingly, these claims shall be dismissed in their entirety.

ENTERED this 6th day of May, 2009.

Alexandria, Virginia



Liam O'Grady
United States District Judge

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "mmellis@oag.state.va.us" <mmellis@oag.state.va.us>; Gina Schaecher <gschaecher@kasannlaw.com>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
Sent: Friday, October 5, 2012 8:54 AM
Subject: RE: Attic/thrid floor request for documents

Ms. Madison,

We are still in the process of seeing if there are any issues to move forward with in your appeal to the Review Board. At this time, we are trying to sort out the stair situation from the second floor to the attic and the other parties are determining their position on whether to agree or not to agree that they were installed at the factory. There are other issues related to the stairs such as whether, if they were installed at the factory, whether they were in violation of the IBSR, and whether that issue may be moot in any appeal given that the stairs are no longer present and the site work has changed the situation. If we get to the point where an issue can move forward in an appeal, then there may be other jurisdiction questions related to it which may need to be raised. That will be addressed as we move along.

It would be helpful if you would concentrate on just trying to delineate your appeal issues at this point and not providing arguments about issues that haven't been established as issues to move forward in your appeal (or even ones that have), as there will be an opportunity for all parties to provide written arguments once we see if there is any appeal to move forward.

Review Board staff has no authority or ability to provide you with any records of the Department. We are just processing your appeal to the Review Board. I have already asked Mr. McMahan to send you a copy of the sign-in sheet for the informal fact-finding conference. He is on vacation this week and will send it to you when he returns.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board

State Building Codes Office

Division of Building and Fire Regulation

Va. Department of Housing and Community Development

Direct Dial: (804) 371-7174

Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Saturday, October 06, 2012 7:45 AM

To: Hodge, Vernon (DHCD); Calhoun, Steve (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD)

Cc: Thompson, Chris; mmelis@oag.state.va.us; Gina Schaecher; McMahan, Alan (DHCD); Ralph Rinaldi

Subject: Re: Attic/thrid floor request for documents

Thank you for your note.

Please forgive my persistence. Any such "argument" is merely an effort to further crystallize the issue and expand upon the necessary application of the code, a function of the SBCAO.

I believe Steve Calhoun is the FOIA contact and can provide me with the documents related to the certification of Ms. Davis as requested below--- and so they have been requested.

I feel that I have the right to request that Ms. Davis rescind her letter as certain issues, in general, may be seen as independent from your role. The Davis letter is a dangerous re-write of well-established VA law and should never have solicited an appeal at all because it was mere opinion outside the scope of a building official, based upon a false presumption (that Integrity was out of business).

NTA Inc. is relevant to the appeal, as named by me in the complaint (advised by DHCD). I believe it is a serious error for the TRB to re-direct and re-cast the nature of the initial complaint and the scope of the appeal by limiting the parties. The NTA lawyer requested that I copy him on the e-mails.

The nature of the matter, related to NTA Inc and Milton, and the application of the code, is a function that DHCD is authorized to act upon WITHOUT the "appeal" moving forward. And if the code and the application of the code REQUIRES somehow that I "argue" it NOW in order for DHCD to do their job (protect the public), I will gladly assist if necessary, particularly when more documents and requirements under the law are revealed during this process. In other words, the more I examine the matter, the more violations and breaches of duty arise as outlined below.

I again apologize for any misplaced argument but, at the same time, appreciate the opportunity to better understand the process, procedures, and code that apply to the CAA and other parties. I hope that DHCD will equally appreciate and evaluate the allegations and move to ensure the protection of the health, welfare, and safety of the public through the CAA program and the code related to industrialized buildings.

Milari Madison

From: McMahan, Alan (DHCD)
Sent: Tuesday, October 09, 2012 9:31 AM
To: 'huntermadison2002@yahoo.com'
Cc: Hodge, Vernon (DHCD)
Subject: RE: Sign in sheet, copy request

Ms. Madison,

As you requested, please find attached a PDF of the sign-in sheet for the informal fact-finding conference on your appeal (Appeal No. 12-6).

Sorry for not getting it to you sooner, but I was out of the office all last week and our offices were closed yesterday for Columbus Day.

Should you need anything else, please let me know.

Regards,

Alan McMahan, CBO
Senior Construction Inspector II
State Building Code Office
Division of Building & Fire Regulation
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, Virginia 23219
(804) 371-7175
(804) 371-7092 - fax
alan.mcmahan@dhcd.virginia.gov

VIRGINIA STATE BUILDING CODE TECHNICAL REVIEW BOARD

REGISTRATION FOR PARTICIPATION IN INFORMAL FACT-FINDING CONFERENCE

APPEAL CASE: 12-6 - Madison v. DHCD DATE: 9/25/12

NAME OF PERSON (Please print clearly)

PARTY AFFILIATION

MARTIN SICKLE

MILTON HOME SYSTEMS, INC

GINA SCHAECHLE (shaker)

Integrity Building Systems

DICK FOWE

KASIMIR, ANNINO, PC

Madison Madison

MILTON HOME SYSTEMS, INC

CINDY DAVIS

complainant

DHCD

ERIC LEATHERBY

DHCD

CHRIS THOMPSON

LCBTD

From: Gina Schaecher <gschaecher@kasannlaw.com>
To: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
Cc: Hunter Madison <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "mmelis@oag.state.va.us" <mmelis@oag.state.va.us>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
Sent: Wednesday, October 10, 2012 1:29 PM
Subject: RE: Attic/thrid floor

Mr. Hodge:

Attached please find the Integrity Building Systems, Inc.'s check list for the modular units purchased by Convenient Installations for Ms. Madison. As you will note, these documents provide that the stairs were not installed at the manufacturing plant, and were indeed shipped loose as indicated by the "S/L" notation on the item line for the stairs. Also, please note that the comments specifically provide, "stairs not installed." Please see pages QA30.1 for modular units 1991 B and 1991 G attached.

With respect to the attic area, we have not identified any document in which the attic is identified as habitable or occupiable space. All plans for the house indicate two stories, not three.

Consequently, it is Milton Home Systems, Inc.'s position that the stairs were shipped loose and not installed at the factory, and that all plans provide for a two story house, with no mention of use of the attic as habitable space.

Should you have any further questions, or require any additional information, please do not hesitate to contact us.

Respectfully,

Gina L. Schaecher
Counsel for Milton Home Systems, Inc.

Gina L. Schaecher, Esquire
Kasimer & Annino, P.C.
7653 Leesburg Pike
Falls Church, Virginia 22043
(703) 893-3914 - Phone
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Leesburg Area Office
39959 Catoctin Ridge Street
Paeonian Springs, VA 20129
(540) 882-4747

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged and confidential, the disclosure of which is prohibited under the applicable law.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Friday, October 12, 2012 6:58 AM
To: Gina Schaecher; Hodge, Vernon (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD)
Cc: Davis, Cindy (DHCD); Thompson, Chris; mmellis@oag.state.va.us; McMahan, Alan (DHCD); jared@markobenshain.com; Ralph Rinaldi
Subject: Re: Attic/thrid floor

Assuming the attached documents can be authenticated as submitted by Milton's counsel, there are 9 boxes and four sets of stairs in the dwelling. Which stairs allegedly shipped loose? Shipping them loose is **contrary** to the Installation Systems and Procedures For Setting Modular Housing.

QA Checklists for two boxes have been provided by Milton. Dated as inspected 6-30-11, other "comments" are apparently added on "7-15-11", but **NOT INCLUDED** as "INSPECTED". The other comments, that *may have been* added on 7-15-11, are not included by Milton's counsel and are not part of the inspection because such comments allegedly occurred **15 days after the inspection**.

WHERE IS THE QA CHECKLIST FOR THREE STORY HOUSES?
WHERE ARE THE INSPECTION AND CERTIFICATION RECORDS FROM NTA, INC
THAT THE PLANT WAS CERTIFIED TO BUILD THREE STORY DWELLINGS?

Section 202 identifies an attic as "that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story. A common misuse of terminology is the designation of a space as a habitable or occupiable attic."

At a minimum, Milton and NTA, Inc. misidentified the space for planning, permitting, design, and certification purposes. The permit and building plans **INCLUDE** the staircase up to the third floor. The third floor included a substantial plywood floor. The data plate in incorrect. Applicable law defines this project as a three story.

As provided previously, numerous e-mails state the intent to use the third floor as provided for in the design.

From: Melis, Mike F. [mailto:mmelis@oag.state.va.us]
Sent: Thursday, November 01, 2012 11:46 AM
To: Davis, Cindy (DHCD)
Subject: FW: Attic/third floor

I received a copy of the Sep. 17, 2012, letter from Bill Shelton to Milari Madison in response to her e-mail to the Governor. Thank you for forwarding that to me. In Madison's Oct. 12 e-mail, in which she references this letter, it appears that she also states the following:

Further, the Secretary provided a copy of an SNSA Inc. Appeal Nos. 11-9 and 1-10 ORDER, and suggested that my appeal could be rescinded (essentially because nothing was really available to be appealed based on the erroneous understanding by DHCD as to the definition of a third floor and as to DHCD's erroneous understanding of when and how the electrical panes were set, among other things).

So it appears that in addition to the letter from Bill Shelton, Madison also may have received correspondence from "the Secretary" - presumably the Secretary of Commerce and Trade? If this is correct, can you provide me with a copy of what she received?

Thanks. - Mike

Mike F. Melis
Assistant Attorney General
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219
(804) 371-7965
(804) 371-2087 (fax)

From: Davis, Cindy (DHCD)
Sent: Thursday, November 01, 2012 12:16 PM
To: Hodge, Vernon (DHCD)
Cc: Rodgers, Emory (DHCD); Melis, Mike F.
Subject: Appeal information

Vernon,

Please see question from Michael Melis related to information provided to Milari Madison. If this information came from you would you please provide him with copies?

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: "mmelis@oag.state.va.us" <mmelis@oag.state.va.us>
Cc: Hunter Madison <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; Gina Schaecher <gschaecher@kasannlaw.com>
Sent: Friday, November 2, 2012 9:32 AM
Subject: RE: Appeal information

Mr. Melis:

Ms. Madison was referring to prior decisions of the Review Board which were distributed at the informal fact-finding conference. The Secretary she is referring to is the Secretary of the Review Board. The decisions hold that if violations have been corrected, any appeal is moot. The Review Board decisions she is referring to are attached.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Monday, November 05, 2012 7:38 AM
To: Hodge, Vernon (DHCD); mmellis@oag.state.va.us; Shelton, Bill (DHCD); sjack@oag.state.va.us; Rodgers, Emory (DHCD)
Cc: Davis, Cindy (DHCD); Gina Schaecher; Ralph Rinaldi; Chris Thompson; jared@markobenshain.com; Leatherby, Eric (DHCD)
Subject: Re: Appeal information, Request for Authority and review of Procedure

§ 36-82.1. Appeals.

Any person aggrieved by the Department's **application** of the rules and regulations of the Industrialized Building Safety Law shall be heard by the State Building Code Technical Review Board established by § 36-108. The Technical Review Board shall have the power and duty to render its decision in any such appeal, which decision shall be final if no further appeal is made.

Dear Mr. Shelton or Whom It May Concern;

Please provide a copy of the authority bestowed upon the TRB and/or Mr. Hodge to reconstruct the law; specifically, *no where* does the TRB or DHCD have the authority to short-circuit due process as to suggest that the appeal should be rescinded or to apply a previous case decision to this matter. Contrariwise to the attached case decision as provided by Mr. Hodge, no correction notice or NOV has been issued to the CAA, builder, or manufacturer or such person and outstanding violations remain. The Complaint and Appeal cannot be re-invented by DHCD or the TRB, including the named parties. Mr Rinaldi, counsel for NTA Inc., requested that he be included on such e-mails.

The TRB does not have the authority to uphold or even hear on appeal Ms. Davis's re-interpretation of well- established VA law and her erroneous conclusion that Integrity Building Systems is out of business, the sole basis for the appeal. No where, does a previous case decision by the TRB exist that such a "finding" by the DHCD building code official is consistent with the law and can be relied upon in this instance. Ms. Davis erroneously "concluded" that Integrity Building Systems was "out of business" and relying upon such a finding, would refuse to take enforcement action against Integrity, the builder (Convenient Installations), or NTA Inc., or such responsible persons. Documentation provided to DHCD (copies of letters from Integrity's then attorney, Ken Potter, and documentation from the PA Corporation Commission) affirm the name change only--- that they were **not** out of business. Even so, a name change by a business does not absolve the responsible company or person, as provided in the code, from obligation.

The appeal is based on Ms. Davis's letter that re-invents and re-interprets VA law, not the application of the building code because she never did so. It is through her letter and affirmed by Mr. Emory Rodgers that the appeal must be filed. It would be conscious shocking for any party to accept such a "finding" by DHCD (the reinvention of the law and bastardization of due process) given the circumstances.

There are outstanding and remaining issues relevant to the installation procedures of the house, found within the IBSR, which have been ignored specific to 13 VAC 5-91-250 (the design did not meet code), VAC 5-91-270 and NTA Inc (DHCD's approved CAA). The house is not a two-story house per the ICC and the CAA failed to resolve "problems" as it affirms they will to DHCD under their procedures. NTA Inc. has failed to meet its obligations under the code, yet this fact, appears to have been ignored by DHCD. Mr. Hodge, admitted at the meeting in Leesburg, that the data plate is incorrect (as it is), yet no correction has occurred, another violation of VAC 5-91-270. Integrity Building Systems now d/b/a Milton, and their attorney appeared at the meeting as well, hardly out of business.

DHCD's job is to protect the public from nefarious activities, ensure that the CAA's are complying with the requirements set by the law, and to ensure the public's safety and welfare.

The Davis letter should be rescinded (as no authority by the G.A. permits DHCD to re-invent well-established law) and the appropriate correction notices should be issued. Please further note, that additional code violations exist beyond the ones already noted by Loudoun County, including the compliance with the manufacturer's procedures and specifications at 13 VAC 5-91-270.

A complete review of the program and IBSR is surely warranted.

Milari Madison

From: Hodge, Vernon (DHCD)
Sent: Monday, November 05, 2012 12:17 PM
To: Hunter Madison
Cc: Davis, Cindy (DHCD); mmelis@oag.state.va.us; Gina Schaecher; McMahan, Alan (DHCD)
Subject: RE: Appeal information, Request for Authority and review of Procedure

Ms. Madison,

We are still processing your appeal to the Review Board. No issues have been taken off of the table. I have only made you aware of prior decisions of the Review Board where they may be applicable. Once we hear back from the SBCO on the attic stairway issue, then we will decide how to proceed on that issue. We probably will have to conduct another informal fact-finding conference to continue to get to the bottom of what issues may move forward in your appeal.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: "Melis, Mike F." <mmelis@oag.state.va.us>
To: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
Cc: "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "gschaecher@kasannlaw.com" <gschaecher@kasannlaw.com>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>; Hunter Madison <huntermadison2002@yahoo.com>
Sent: Monday, November 5, 2012 2:29 PM
Subject: RE: Attic/thrid floor

Dear Mr. Hodge:

I write on behalf of Ms. Davis and the State Building Code Administrative Office. You have asked: 1) whether we agree that the stairs between the second floor and third floor/attic were installed at the factory; and, 2) if so, whether we determined that they were in violation of the IBSR. I write to provide our position on these two questions.

1) We have no first-hand knowledge of whether the set of stairs at issue was installed at the factory or shipped loose. Counsel for Milton has indicated that the stairs appear to have been shipped loose, which is typical.

2) Whether the stairs at issue were installed at the factory or shipped loose, we determined that the stairs did not meet applicable headroom requirements. This determination was based on both Loudoun County's determination as well as the site inspection completed by Eric Leatherby on April 9, 2012. This issue appeared to arise from a design flaw. As a result, there was an IBSR violation.

However, based on the information provided at the informal fact finding conference, we understand that a set of plans for stairs from the second floor to the third floor/attic has been submitted to the Loudoun County Building Department which were approved as code compliant, and an initial inspection has been completed. We also understand that the second floor to third floor/attic stairs have been removed. Therefore, no current IBSR violation exists with regard to the second floor to third floor/attic stairs because they are site built stairs that comply with the applicable code and will be approved by Loudoun County.

If you need any additional information, please feel free to contact me. Thank you.

Mike F. Melis
Assistant Attorney General
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219
(804) 371-7965
(804) 371-2087 (fax)

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Wednesday, November 07, 2012 8:35 AM

To: Melis, Mike F.; Hodge, Vernon (DHCD); Ralph Rinaldi

Cc: Davis, Cindy (DHCD); gschaecher@kasannlaw.com; Thompson, Chris; McMahan, Alan (DHCD)

Subject: Re: Attic/thrid floor

Can someone kindly provide me with a copy of the **stamped engineering drawings/design** as approved per 13 VAC 5-91-250 (at no charge)? The walls and plans as changed by Milton on site and at the factory need to be reflect the changes made. This would also assist Loudoun County in having drawings that are stamped for the purpose of design live load section 13 VAC 5-91-245 number 7 (requested by Loudoun County) and to correct the plan that, in fact, per the ICC, the structure is three story, not two which changes the total square footage of living space. Milton staff assisted in the set and made other alterations that violate 13 VAC 5-91-270 at B. The data plate, as agreed at the meeting, remains incorrect specific to the designation of electrical service ratings at 13 VAC 5-91-245 number 11.

These ARE open violations to the ISBR

Milari Madison

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Sunday, November 11, 2012 4:34 PM

To: "Melis, Mike F."; Hodge, Vernon (DHCD); Ralph Rinaldi; Davis, Cindy (DHCD); "gschaecher@kasannlaw.com"; "Thompson, Chris"; McMahan, Alan (DHCD); Shelton, Bill (DHCD); sjack@oag.state.va.us

Cc: jared@markobenshain.com

Subject: Stairs typically installed at factory per Milton's own documentation!

At the meeting with Mr. Hodge, Milton's President, Richard Rowe stated he did not *know* if the stairs shipped loose. I do not believe his "not knowing" would suggest that stairs "typically" ship loose as Mr. Melis suggests. The house has four sets of stairs. No where in the Installation Systems and Procedures For Setting Modular Housing, approved by NTA Inc. March 7, 2011, are there instructions for setting stairs to the third floor. As found in the quote sheet, the stairs are not indicated as loose shipped items. 13 VAC 5-91-270 states that installers must erect the building in accordance with the manufacturer's instructions. Milton had their own staff on-site assisting with the set-up although they were unlicensed to perform such work.

In Milton's e-mail, the attorney states: "please note that the comments specifically provide, "stairs not installed ." Please see pages QA30.1 for modular units 1991 B and 1991 G attached". **The sheet, 1991 B, at #29 says "Stairs set correctly," . At #30, it says stairs set allowing for cement board or hardwood.** It is highly arguable that stairs shipping loose is "typical". According to Milton's own documentation, it is **typical** that the stairs are set at the factory. Further, it remains **unknown** if after the initial inspection, the stairs from the second floor to the third floor were installed in spite of the fact that it would have been very obvious there was a serious problem.

Section 202 identifies "an attic as that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. **Where this area has a floor, it would be defined as a story. A common misuse of terminology is the designation of a space as a habitable or occupiable attic."** The house came with a solid third floor and numerous e-mails show the intent to use the space. It is a clear application of the code that renders the building three story, not two.

Milari Madison

From: Gina Schaecher <gschaecher@kasannlaw.com>
To: 'Hunter Madison' <huntermadison2002@yahoo.com>; ""Melis, Mike F."" <mmelis@oag.state.va.us>;
""Hodge, Vernon (DHCD)"" <Vernon.Hodge@dhcd.virginia.gov>; Ralph Rinaldi <ralph@cowleslaw.com>;
""Davis, Cindy (DHCD)"" <Cindy.Davis@dhcd.virginia.gov>; ""Thompson, Chris""
<Chris.Thompson@loudoun.gov>; ""McMahan, Alan (DHCD)"" <Alan.McMahan@dhcd.virginia.gov>; Bill
<bill.shelton@dhcd.virginia.gov>; "sjack@oag.state.va.us" <sjack@oag.state.va.us>
Cc: "jared@markobenshain.com" <jared@markobenshain.com>
Sent: Monday, November 12, 2012 1:11 PM
Subject: RE: Stairs typically installed at factory per Milton's own documentation!

Dear Ladies and Gentlemen:

We write to briefly respond to Ms. Madison's most recent email message. As a point of clarification, Milton Home Systems, Inc. ("Milton") specifically investigated the questions regarding the shipment of the stairs to be installed between the second floor and the attic storage space and provided the documentation which demonstrated that these particular stairs were indeed shipped loose and were not installed at the factory. The documentation previously provided established this fact.

With regard to the attic, we write to clarify one point noted in Ms. Madison's email. The attic did not have a planned floor and does not have a floor. As planned and provided, the attic has a limited deck aisle for storage and access, but it does not have a floor. All the plans for the modular units call for a two story house.

Should you have any questions or require any further information, please do not hesitate to contact us.

Gina L. Schaecher, Esquire
Kasimer & Annino, P.C.
7653 Leesburg Pike
Falls Church, Virginia 22043
(703) 893-3914 - Phone
(703) 893-6944 - Fax
gschaecher@kasannlaw.com

Leesburg Area Office
39959 Catoctin Ridge Street
Paeonian Springs, VA 20129
(540) 882-4747

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged and confidential, the disclosure of which is prohibited under the applicable law.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Monday, November 12, 2012 4:27 PM

To: Gina Schaecher; "Melis, Mike F."; Hodge, Vernon (DHCD); Ralph Rinaldi; Davis, Cindy (DHCD); "Thompson, Chris"; McMahan, Alan (DHCD); Shelton, Bill (DHCD); sjack@oag.state.va.us; Rodgers, Emory (DHCD)

Cc: jared@markobenshain.com

Subject: Milton's building plans show third floor sub-floor

The sheet I have attached states at #29, and #30 "stairs not installed" dated 6/30/11. Then dated "7-15-11" it states "OK". The Integrity Building Systems, Inc. "ship loose check-off sheet" that is 6 pages DOES NOT INDICATE STAIRS WERE SHIPPED LOOSE. The attic/third floor came from the factory with a substantial plywood floor. The sheathing that Milton's counsel refers to as a "deck aisle" was placed by me as it was required to access and support the HVAC equipment. The Milton building plan shows a sub-flooring material WITHIN the knee-walled area, my third floor living space.

Even if Milton shipped the stairs to the attic loose, and had unlicensed persons install them, the design fails specific to code section 13 VAC 5-91-250 at 1. Further, the opening would have been completely unguarded and the thermal envelope required under 13 VAC 5-91-270, the manufacturer's instructions, would fail and be an additional code violation.

Milton's counsel is correct, the builder and CAA failed to correctly identify that the house is a three story house per the adopted definition of the attic. Section 202 identifies "an attic as that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story. A common misuse of terminology is the designation of a space as a habitable or occupiable attic."

Here are some of the e-mails regarding the use of the attic as communicated with Integrity:

1991 G

Integrity Building Systems, Inc.
 Modular Plant #1
 Quality Assurance Checklist

NIA INC. JUN 29 2010
MICHAEL A. FALLER

Station #2 ABCD - Walls, roof, insulation, electrical**Task Description****Inspected****Infraction**

1. Header & sill fastening & sizing - fasten multiple members with 15 Ga 7/16"x2 1/2" @ 5" oc stagger
2. Correct number of column supports sidewall:
Fasten multiple members w/ 15 Ga 7/16"x2 1/2" 2 1/2" oc or 4" oc
3. Correct number of column supports marriage wall (with 15 Ga 7/16"x2 1/2" @ 2 1/2" oc)
4. Marriage wall fireblocking installed (wall hgt. over 10')
5. Partition wall fireblocking installed (wall hgt. over 10')
6. Exterior walls 16" oc or 24" oc
7. Partition walls 16" oc or 24" oc
8. Washer drain installed and supported
9. Center wall beam sizing and securing
- *10. Ceiling board fastening with foam (rated assemblies fastened per listing)
11. Compression strip
12. Toe screw or use anchor straps to fasten trusses to sidewall
13. Attic access
14. Galvanized straps 1 1/4"x12" (26 GA) for marriage walls floor/ceiling fastening
16 Ga 1" staple 10 per STD & every other stud
NY - 110 & 120 STD every stud
15. Wiring protectors installed (marriage wall)
17. Wiring protectors installed (partitions)
- *18. Wiring stapled to code in ceiling cavity
- *19. Vent pipe pitched & strapped to code in cly. cav
20. NM cable properly spaced and supported in the marriage wall & side wall (1 1/4" from edge of framing and 48" oc)
21. NM cable properly spaced & supported in partition walls (1 1/4" edge of framing & 48" oc)
22. Skylights framed properly
23. Firestopping of wire penetrations partitions
24. Check integrity of NM cables
25. Panel box location per print
26. Carbon monoxide detector (NJ, NY, RI, and VT)
27. Roof dormer openings per print
28. 110 & 120 mph wind zone trusses endzone 1" 3 trusses from end HTS 16" tie down.
29. 110 & 120 mph wind zone trusses intermediate zone HTS 16" tie down.
28. Exterior steel doors shimmed down 1/2"
29. Stairs set correctly - max. 8 1/4" rise top and bottom 9" min. tread " to top of 2x4 from last tread.
30. Stairs set allowing for hardwood or cement board
31. Tack 2x8 ledger for marriage wall - 2 story only
32. GFCI and AFCI applications provided
33. Air barrier and Insulation Inspection per QA Manual Appendix B Pages #1 thru #8.

C/O

C/O

C/O

N/A

N/A

C/O

C/O

C/O

C/O

C/O

C/O

C/O

N/A

C/O

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N/A

C/O

N/A

N/A

N/A

N/A

N/A

C/O

C/O

N/A

C/O

C/O

C/O

Comments:

*STAIRS NOT INSTALLED

Inspected by:

C/O

Date:

6/29/10

Those items indicated with an asterisk (*) and bold type are required to be visually inspected before concealment.

QA 30.1

MILTON 001225 223

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Sunday, November 18, 2012 10:07 AM
To: Gina Schaecher; Ralph Rinaldi; Chris Thompson; Davis, Cindy (DHCD); McMahan, Alan (DHCD); Hodge, Vernon (DHCD); mmellis@oag.state.va.us; sjack@oag.state.va.us; Leatherby, Eric (DHCD); Hodge, Vernon (DHCD)
Cc: Rodgers, Emory (DHCD); Shelton, Bill (DHCD); jared@markobenshain.com
Subject: Fw: Madison house (clarification for third floor) stamped engineered doc

----- Forwarded Message -----

From: Mark Neal <mneal@barlow-engineering.com>
To: 'Hunter Madison' <huntermadison2002@yahoo.com>
Cc: Chris.Thompson@loudoun.gov
Sent: Friday, November 16, 2012 12:36 PM
Subject: RE: Madison house

Mrs. Madison & Mr. Thompson,

Attached is a revised copy of the shearwall calculations we provided to IBS for the C-484709-2 plan. The only revision we made was on the Main House summary sheet showing the roof as a 3rd floor. The calculations were done correctly originally but we didn't call the habitable attic a floor.

I trust this will clarify our portion of the design and I wish you the best in resolving your issues.

Please contact our office with any questions or comments.

Thanks,

Mark Neal
Barlow Engineering, P.C.
6612 Six Forks Rd.
Suite 104
Raleigh, NC 27615
(919) 845-1600

-----Original Message-----

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Friday, November 16, 2012 10:00 AM
To: mneal@barlow-engineering.com
Subject: Madison house

Chris.Thompson@loudoun.gov

Mark,

As discussed, please send the corrected plan/calc for the third floor shear wall to me and the building code official. PDF is fine.

Thank you.

Milari Madison

HIGH WIND
CALCULATIONS
FOR

**INTEGRITY
BUILDING SYSTEMS**
MILTON, PA

C-484709-2
90 MPH
WIND EXPOSURE: C



11/16/12

PREPARED BY:
BARLOW ENGINEERING, P.C.
6612 SIX FORKS RD, SUITE 104
RALEIGH, NC 27615

NARRATIVE

110376

0232nec2011

IBS - C-484709-2

48.08' x 58.5' Two Story

9/12

90 mph

Exposure C

VA

ETHAN LOEWENTHAL

7/11/11

Analyses were performed for two parts of the structure: the Den and the Main House

Den

The Endwall #1 shear loads were added to the Main House Endwall #2 at the 1st level ceiling and floor. Shear connections were designed to transfer these loads.

The floor diaphragm continuity calc was removed, because it is a 1-module structure.

The roof truss uplift DL calcs were modified for the transverse roof orientation.

Main House

Because there are two orthogonal roof orientations, the perpendicular-to-ridge wind loading was used for both orthogonal directions. This is conservative loading.

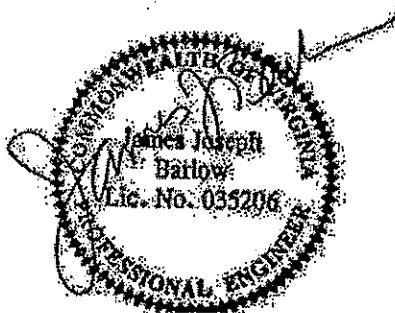
Endwall #1 on the 1st level and Sidewall #2 on both levels end in segments shorter than $H/3.5$. Holddowns were designed for the true ends of these walls.

The 1st level ceiling above the Sun Room was designed to transfer shear load out to the portion of Sidewall #1 at the Sun Room.

The structure dimensions were reduced in the shear connections calcs and in the overturning dead load calcs for the worst cases.

INDEX

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SECTION 2 HIGH WIND CALCULATIONS – MAIN HOUSE	P1-23
SECTION 3 HAND CALCULATIONS	P1-3
SECTION 4 ALTERNATE CONNECTIONS	P1

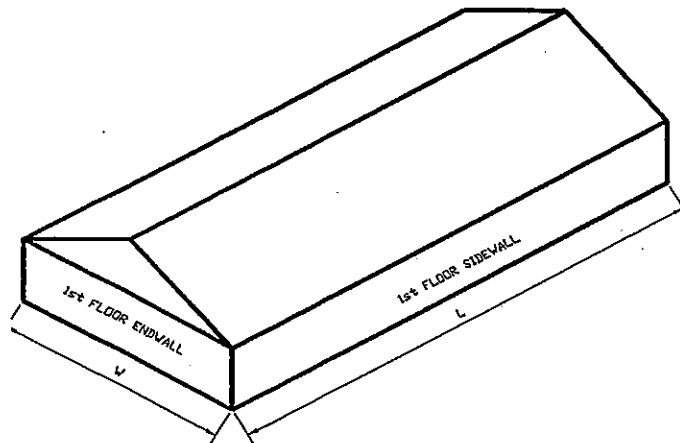


11/16/12

Section 1
HIGH WIND CALCULATIONS
DEN



11/16/12



BUILDING INFORMATION:

JOB NUMBER =	110376	
PLAN NAME / NUMBER =	C-484709-2	
FIRST FLOOR WIDTH (W) =		21.83 ft
FIRST FLOOR LENGTH (L) =		15.75 ft
ROOF SPAN =		21.83 ft
TRUSS SPACING (TOC) =		24 in
STUD SPACING (SOC) =		24 in
WIND SPEED (V3S) =		90 mph
EXPOSURE FACTOR =	C	
MEAN ROOF HEIGHT ADJUSTMENT FACTOR (CMRH) =		1.195
WALL HEIGHT ADJUSTMENT FACTOR (CWH) =	H / 8 =	1.125

SHEARWALL SUMMARY:

SHEATHING FASTENING MUST USE THE MORE RESTRICTIVE FASTENING OF THAT SPECIFIED FOR SHEARWALL SHEATHING FASTENING AND SHEATHING SUCTION FASTENING

FIRST FLOOR ENDWALL #1: THERMO-PLY (RED) SHEATHING EXTERIOR w/ 1/2" GWB INTERIOR
ADJACENT TO MAIN HOUSE WITH FASTENERS SPACED AT 3" EDGE

THERMOPLY FASTENED WITH 1" CROWN, 1 1/4" LEG 16 ga. STAPLE 3" O.C. EDGE & FIELD; STAPLES TO BE INSTALLED PARALLEL TO GRAIN

FIRST FLOOR ENDWALL #2: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR
OPPOSITE MAIN HOUSE WITH 8d COMMON NAILS SPACED AT 6" EDGE

FIRST FLOOR SIDEWALL #1: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR
DEN WITH 8d COMMON NAILS SPACED AT 6" EDGE

FIRST FLOOR SIDEWALL #2: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR
BATH #1 WITH 8d COMMON NAILS SPACED AT 6" EDGE

ROOF SHEATHING: 7/16" OSB (UN-BLOCKED) w/ 8d NAILING @ 6"x12"

CEILING SHEATHING: 1/2" GWB (UN-BLOCKED) w/ FASTENERS @ 7"x7"

FLOOR SHEATHING: 19/32" MIN. OSB (UN-BLOCKED) w/ 8d NAILING @ 6"x12"

SHEATHING SUCTION FASTENING:

FOR ROOF ZONE 1: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12 in o.c.
FOR ROOF ZONE 2: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12 in o.c.
FOR ROOF ZONE 3 (CORNER): USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 8 in o.c.
FOR ROOF ZONE 3OH (CORNER OVERHANG): USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 7 in o.c.
FOR WALL ZONE 4: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.
FOR WALL ZONE 5: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.
EDGE DIMENSION, Z = 3 ft

PREPARED BY:
BARLOW ENGINEERING, P.C.
6612 SIX FORKS RD, SUITE 104
RALEIGH, NC 27615

CONNECTION SUMMARY: CONNECTIONS TO BE AS SPECIFIED OR EQUIVALENT

UPLIFT CONNECTIONS

REQUIRED TRUSS TIE DOWN: USE A SIMPSON H2.5A EACH TRUSS
OR USE (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE)
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 389 lbs

1ST FLOOR STUD TO TOP PLATE / CEILING BAND: USE A 1.5" x 26 ga. STRAP EACH STUD WITH (6) 8d NAIL(S) EACH END
OR WITH (8) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 389 lbs

1st FLOOR STUD TO FLOOR BAND: USE A 1.5" x 26 ga. STRAP EACH STUD WITH (6) 8d NAIL(S) EACH END
OR WITH (8) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 260 lbs

FLOOR BAND TO SILL PLATE CONNECTION: USE A 1.5" x 22 ga. STRAP WITH (7) 8d NAIL(S) EACH END
OR WITH (17) 16 ga. STAPLE(S) EACH END
WRAPPED AROUND THE SILL PLATE AT EACH ANCHOR BOLT LOCATION
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 780 lbs

LATERAL CONNECTIONS

TRUSS TO TOP PLATE CONNECTION: USE (2) 0.131" x 2.5" COMMON NAIL (TOENAIL) PER TRUSS
IF (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE) TRUSS CONNECTION IS USED, ABOVE CONNECTION MAY BE OMITTED

PLATE TO PLATE CONNECTION: ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAIL) AT 12" ON CENTER

PLATE TO STUD CONNECTION: USE (2) 0.162" x 3.5" COMMON NAIL (ENDNAIL) PER STUD

BOTTOM PLATE TO FLOOR CONNECTION: ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAIL) AT 12" ON CENTER

TOP PLATE SPLICES

TOP PLATE SPLICES SHALL BE A MINIMUM OF 1 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAIL)) 3" o.c.
OR A MINIMUM OF 1 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAIL)) 12" o.c.

SHEAR CONNECTIONS

FIRST FLOOR ENDWALL

UNIT SHEAR SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
(AND SHEATHING TO TRUSS BOTTOM CHORD) OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 161 plf

UNIT UPLIFT SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 161 plf
ALTERNATE: FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

TRUSS BOTTOM CHORD TO TOP PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAIL) @ 16" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 72" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 1292 lbs

RIMBAND TO SILL PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAIL) @ 16" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 66" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2273 lbs

SILL PLATE TO FOUNDATION CONNECTION: USE 1/2" ANCHOR BOLTS @ 72" O.C.
OR USE 5/8" ANCHOR BOLTS @ 72" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2273 lbs

FIRST FLOOR SIDEWALL

UNIT SHEAR SHEATHING TO RIMBAND CONNECTION: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 179 plf

UNIT UPLIFT SHEATHING TO RIMBAND CONNECTION: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 179 plf
ALTERNATE: FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

RIMBAND TO SILL PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAIL) @ 14" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 53" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2048 lbs

SILL PLATE TO FOUNDATION CONNECTION: USE 1/2" ANCHOR BOLTS @ 72" O.C.
OR USE 5/8" ANCHOR BOLTS @ 72" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2048 lbs

HOLDDOWN CONNECTIONS

FIRST FLOOR CORNER HOLDDOWN: NO PHYSICAL HOLDDOWN REQUIRED

FIRST FLOOR CORNER STUD CONNECTION: FASTEN CORNER STUDS 2 ROWS OF 16d COMMON NAILS @ 16" ON CENTER
OR USE (6) 1/4" DIA. LAG SCREWS

APPLICABILITY LIMITATIONS:

MEAN ROOF HEIGHT (MRH) =	16.10 ft
NUMBER OF STORIES =	1
FIRST FLOOR WIDTH (W ₁) =	21.83 ft
FIRST FLOOR LENGTH (L ₁) =	15.76 ft
BUILDING ASPECT RATIO (L/W) =	0.72
FLOOR JOIST DEPTH =	9.25 in
MAX. VERTICAL FLOOR OFFSET =	0 in
FLOOR ASPECT RATIO (L/W) =	0.72
MAX. FLOOR DIAPHRAGM OPENING WIDTH =	0 ft
MAX. FLOOR DIAPHRAGM OPENING LENGTH =	0 ft
FIRST FLOOR HEIGHT (H ₁) =	9 ft
CEILING ASPECT RATIO (L/W) =	0.72
MIN. SHEARWALL SEGMENT (H / 3.5) =	2.57 ft
ROOF PITCH =	9 / 12

DESIGN MEETS LIMITATIONS OF THE WFCM METHODOLOGY

CONNECTION INFORMATION:

TRUSS TO PLATE CONNECTORS

UPLIFT STRENGTH:			SHEAR STRENGTH:	
SIMPSON H2.5	U =	365 lbs	F _x =	130 lbs
SIMPSON H2.5A	U =	480 lbs	F _y =	110 lbs
SIMPSON H10	U =	650 lbs	F _z =	235 lbs
(5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE)			U =	834 lbs
			F _z =	466 lbs
200 psi MINIMUM CONSTRUCTION ADHESIVE			Z =	100 psi (END-GRAIN)
200 psi MINIMUM CONSTRUCTION ADHESIVE			Z =	200 psi (FACE)

FLAT STRAPS	MAXIMUM	FASTENERS: 8d NAIL	16 ga. STAPLE
1.5" x 28 ga. STRAP	Z = 485 lbs	Z = 76.7	49.9 lbs
1.5" x 22 ga. STRAP	Z = 810 lbs	Z = 127.2	48.6 lbs
1.5" x 20 ga. STRAP	Z = 973 lbs	Z = 127.3	48.3 lbs
(2) 1.5" x 22 ga. STRAP	Z = 1620 lbs	Z = 129.4	46.4 lbs
(2) 1.5" x 20 ga. STRAP	Z = 1946 lbs	Z = 131.4	46 lbs

HOLDDOWNS w/ 1 1/2" EDGE DISTANCE

MINIMUM 8" STEM WALL

ASSUME 3000 psi Fc CONCRETE

SIMPSON LSTHD6RJ	Z =	1950 lbs
SIMPSON STHD10RJ	Z =	3230 lbs
SIMPSON STHD14RJ	Z =	4430 lbs
(2) SIMPSON STHD14RJ	Z =	8660 lbs
1/2" DIA. THRU BOLT	Z =	623 lbs
1/2" ANCHOR BOLT	Z =	1056 lbs
5/8" ANCHOR BOLT	Z =	1488 lbs
1 1/4" DIA. LAG SCREW	Z =	224 lbs
0.131" x 2.5" COMMON NAIL (FACE NAILED)	Z =	100 lbs
0.131" x 2.5" COMMON NAIL (TOENAIL)	Z =	83 lbs
0.131" x 2.5" COMMON NAIL (ENDNAILED)	Z =	67 lbs
0.162" x 3.5" COMMON NAIL (TOENAIL)	Z =	158 lbs
0.162" x 3.5" COMMON NAIL (FACE NAILED)	Z =	191 lbs
0.162" x 3.5" COMMON NAIL (ENDNAILED)	Z =	128 lbs
8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER	Z =	95 lbs
0.131" x 2.5" COMMON NAIL (FACE NAILED)	Z =	69 lbs (7/16" SIDE WITHDRAWAL)
(1) SIMPSON LTP4 PLATE	Z =	575 lbs
1/2" GWB (UN-BLOCKED) w/ FASTENERS @ 7" IT"	Z =	70 plf
7/16" OSB (UN-BLOCKED) w/ 8d NAILING @ 6" IT"	Z =	296 plf
7/16" OSB (BLOCKED) w/ 8d NAILING @ 6" IT"	Z =	328 plf
19/32" MIN. OSB (UN-BLOCKED) w/ 8d NAILING @ 6" IT"	Z =	309 plf
19/32" MIN. OSB (BLOCKED) w/ 8d NAILING @ 6" IT"	Z =	347 plf
7/16" OSB (BLOCKED) w/ 8d NAILING @ 6" IT" & 4" o.c. @ PERIMETER	Z =	437 plf
19/32" OSB (BLOCKED) w/ 8d NAILING @ 6" IT" & 4" o.c. @ PERIMETER	Z =	461 plf
19/32" OSB (BLOCKED) w/ 8d NAILING @ 4" IT" & 2 1/2" o.c. @ PERIMETER, DOUBLE FRAMING	Z =	694 plf

NOTE: SIMPSON CONNECTORS & FASTEN VALUES ASSUME SPF FRAMING MATERIAL
ANCHOR BOLT VALUES ASSUME DF/SP VALUES

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DESIGN UPLIFT LOADS

ROOF & CEILING ASSEMBLY DEAD LOAD =	15 psf
WALL DEAD LOAD (WDL) =	12 psf
FLOOR DEAD LOAD (FDL) =	10 psf
ROOF SPAN (RS) =	21.83 ft
TRUSS SPACING (TOC) =	24 in
STUD SPACING (SOC) =	24 in
FIRST FLOOR HEIGHT (H ₁) =	9 ft

UPLIFT CONNECTION LOAD:

PER TABLE 2.2A, 2001 WFCM AT 21.83' (wup) = 204 plf
 $wup = wup * CMRH - 0.6 * RDL * RS / 4 =$
 $wup = 204 \text{ plf} * 1.196 - 0.6 * 15 \text{ psf} * 21.83 \text{ ft} / 4 =$ 194 plf

REQUIRED TRUSS TIE DOWN:

$P_{tr} = wup * TOC =$
 $P_{tr} = 194 \text{ plf} * 24 \text{ in} / 12 =$
 $P_{tr} =$ 389 lbs

USE A SIMPSON H2.5A EACH TRUSS
OR USE (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE)
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 389 lbs

REQUIRED SIDEWALL STUD TIE DOWN LOADING:

1ST FLOOR STUD TO TOP PLATE / CEILING BAND: $P_{1s} = wup * SOC =$ 194 * 24 / 12 = 389 lbs

1st FLOOR STUD TO FLOOR BAND: $P_{1s} = P_{1s} - 0.6 * WDL * H_1 * SOC =$
 $P_{1s} = 389 \text{ lbs} - 0.6 * 12 \text{ psf} * 9 \text{ ft} * 24 \text{ in} / 12 =$ 260 lbs

CHECK FASTENERS: 8d NAIL $Z =$ 76.7 lbs
389 lbs / 76.7 lbs / FASTENER = 5.07 FASTENERS
USE (5) 8d NAIL(S) EACH END

16 ga. STAPLE $Z =$ 49.9 lbs
389 lbs / 49.9 lbs / FASTENER = 7.78 FASTENERS
USE (8) 16 ga. STAPLE(S) EACH END

USE A 1.5" x 26 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
OR WITH (8) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 389 lbs

SIDEWALL 1st FLOOR BAND TO SILL PLATE CONNECTION:

SIDEWALL UPLIFT AT SILL PLATE: $w_{1s} = P_{1s} / SOC =$
 $w_{1s} = 260 \text{ lbs} * 12 / 24 \text{ in} =$
 $w_{1s} =$ 130 plf

CHECK STRAP AT ANCHOR BOLT LOCATIONS:

1/2" ANCHOR BOLT SPACING (BOC) = 72 in

$P_{1s} =$ $w_{1s} * BOC = 130 \text{ plf} * 72 =$ 780 lb

CHECK FASTENERS: 8d NAIL $Z =$ 127.2 lbs
780 lbs / 127.2 lbs / FASTENER = 6.13 FASTENERS
USE (7) 8d NAIL(S) EACH END

16 ga. STAPLE $Z =$ 48.6 lbs
780 lbs / 48.6 lbs / FASTENER = 16.05 FASTENERS
USE (17) 16 ga. STAPLE(S) EACH END

USE A 1.5" x 22 ga. STRAP WITH (7) 8d NAIL(S) EACH END
OR WITH (17) 16 ga. STAPLE(S) EACH END
WRAPPED AROUND THE SILL PLATE AT EACH ANCHOR BOLT LOCATION
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 780 lbs

CHECK BENDING IN RIMBAND:

DBL 2x10 SPF #2 RIMBAND DESIGN VALUES:

SECTION MODULUS (S) = 42.78 in³
ALLOWABLE BENDING (fb) = 875 psi $M_{max} = \frac{w_p \cdot L^2}{8}$ $M_{max} = \frac{130 \text{ plf} \cdot (72 / 12)^2}{8} = 7020 \text{ in-lbs}$ APPLIED fb = $\frac{M_{max}}{S} = \frac{7020 \text{ in-lbs}}{42.78 \text{ in}^3} = 164 \text{ psi}$

ALLOWABLE BENDING (fb) = 875 psi > APPLIED fb = 164 psi

DBL 2x10 SPF #2 RIMBAND IS OK

LATERAL LOAD AT ROOF/CEILING DIAPHRAGM

ROOF SPAN = 21.83 ft
ROOF PITCH = 9 / 12

WIND PERPENDICULAR TO RIDGE:

PER TABLE 2.5A, 2001 WFCM AT 21.83' (wl-per) = 121 plf
wl-per = wl-per * CMRH * CWH =
wl-per = 121 plf * 1.196 * 1.125 = 164 plf

WIND PARALLEL TO RIDGE:

PER TABLE 2.5B, 2001 WFCM AT 21.83' (wl-para) = 75 plf
wl-para = wl-para * CMRH * CWH =
wl-para = 75 plf * 1.196 * 1.125 = 102 plf

LATERAL LOAD AT FLOOR DIAPHRAGM

WIND PERPENDICULAR TO RIDGE:

PER TABLE 2.5A, 2001 WFCM FLI-per = 123 plf
FLI-per = FLI-per * CMRH * CWH =
FLI-per = 123 plf * 1.196 * 1.125 = 166 plf

WIND PARALLEL TO RIDGE:

PER TABLE 2.5B, 2001 WFCM FLI-para = 84 plf
FLI-para = FLI-para * CMRH * CWH =
FLI-para = 84 plf * 1.196 * 1.125 = 114 plf

LATERAL FRAMING CONNECTION LOADS FROM WIND:

(FOR ROOF-TO-PLATE, PLATE-TO-PLATE, PLATE-TO-STUD, AND PLATE-TO-FLOOR)

PER TABLE 2.1, 2001 WFCM wl-wall = 82 plf
wl-wall = wl-wall * CMRH =
wl-wall = 81.5 plf * 1.198 = 98 plfTRUSS MULTIPLIER = 2
STUD MULTIPLIER = 2

TRUSS TO TOP PLATE CONNECTION:

 $P_c = w_{wall} \cdot M_{24} = 98 \text{ plf} \cdot 2 = 196 \text{ lbs}$

TRUSS CONNECTION: SIMPSON H2.5A

 $F_2 = 110 \text{ lbs}$ $P_c = P + F_2 =$
 $P_c = 196 \text{ lbs} + 110 \text{ lbs} =$
 $P_c = 306 \text{ lbs}$

$$\# \text{ OF } 0.131" \times 2.5" \text{ COMMON NAIL (TOENAILED) REQUIRED} = \frac{P_c}{Z} = \frac{65 \text{ lbs}}{83 \text{ lbs}} = 2 \text{ NAILS}$$

USE (2) 0.131" x 2.5" COMMON NAIL (TOENAILED) PER TRUSS

IF (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (2) #4 x 4.5" TOE-SCREWS (TRUSS TO PLATE) TRUSS CONNECTION IS USED, ABOVE CONNECTION MAY BE OMITTED

PLATE TO PLATE CONNECTION:

$$\text{SPACING OF } 0.131" \times 2.5" \text{ COMMON NAIL (FACE NAILED)} = \frac{Z \cdot 12}{W_{wall}} = \frac{100 \text{ lbs} \cdot 12}{98 \text{ plf}} = 12 \text{ in O.C. (16" max)}$$

ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12" ON CENTER

PLATE TO STUD CONNECTION:

$$P_c = w_{wall} \cdot M_{12} = 98 \text{ plf} \cdot 2 = 195 \text{ lbs}$$

$$\# \text{ OF } 0.162" \times 3.5" \text{ COMMON NAIL (ENDNAILED) REQUIRED} = \frac{P_c}{Z} = \frac{195 \text{ lbs}}{128 \text{ lbs}} = 2 \text{ NAILS}$$

USE (2) 0.162" x 3.5" COMMON NAIL (ENDNAILED) PER STUD

BOTTOM PLATE TO FLOOR CONNECTION:

$$\text{SPACING OF } 0.131" \times 2.5" \text{ COMMON NAIL (FACE NAILED)} = \frac{Z \cdot 12}{W_{wall}} = \frac{100 \text{ lbs} \cdot 12}{98 \text{ plf}} = 12 \text{ in O.C. (16" max)}$$

ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12" ON CENTER

TOP PLATE SPLICE LENGTH

STRUCTURE WIDTH (W) =	21.83 ft	
STRUCTURE LENGTH (L) =	15.75 ft	
0.162" x 3.5" COMMON NAIL (FACE NAILED)	Z =	191 lbs
ROOF DIAPHRAGM LOADING (w_{psl}) =	164 plf	
DIAPHRAGM CHORD FORCE =	$T = \frac{w_{psl} \cdot L^2}{8 \cdot W} = \frac{164 \text{ plf} \cdot 15.75 \text{ ft}^2}{8 \cdot 21.83 \text{ ft}} = 233 \text{ lbs}$	
REQUIRED SPLICE LENGTH ($w / (2) \cdot 16d \cdot 3" \text{ o.c.}$): $T \cdot 3" / 12" / \text{ft} =$	$\frac{233 \text{ lbs} \cdot 3" / 12" / \text{ft}}{2 \cdot 191 \text{ lbs} / \text{NAIL}} = 1 \text{ ft}$	
REQUIRED SPLICE LENGTH ($w / (2) \cdot 16d \cdot 12" \text{ o.c.}$): $T \cdot 12" / 12" / \text{ft} =$	$\frac{233 \text{ lbs} \cdot 12" / 12" / \text{ft}}{2 \cdot 191 \text{ lbs} / \text{NAIL}} = 1 \text{ ft}$	

TOP PLATE SPLICES SHALL BE A MINIMUM OF 1 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAILED)) 3" o.c.
OR A MINIMUM OF 1 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAILED)) 12" o.c.

ROOF DIAPHRAGM SHEATHING REQUIREMENTS

ROOF SPAN (RS) =	21.83 ft
ROOF LENGTH (RL) =	15.75 ft
ROOF PITCH =	9 / 12
ROOF ANGLE (RA) =	36.9 °
$w_{psl} =$	164 plf
STANDARD ROOF SHEATHING =	7/16" OSB (UN-BLOCKED) w/ 8d NAILING @ 6"/12"
ROOF SHEATHING SHEAR CAPACITY (v_r) =	296 plf
STANDARD CEILING SHEATHING =	1/2" GWB (UN-BLOCKED) w/ FASTENERS @ 7"/7"
CEILING SHEATHING SHEAR CAPACITY (v_c) =	70 plf
MAX DIAPHRAGM SHEAR (v) = $\frac{L \cdot w_{psl}}{RS} =$	$\frac{15.75 \text{ ft} \cdot 164 \text{ plf}}{21.83 \text{ ft}} = 60 \text{ plf}$
NET DIAPHRAGM SHEAR CAPACITY (v_n) = $v_r + v_c =$	$296 \text{ plf} + 70 \text{ plf} = 366 \text{ plf}$
DIAPHRAGM SHEAR CAPACITY REQUIRED = 60 plf	< STANDARD ROOF/CEILING DIAPHRAGM CAPACITY = 366 plf

STANDARD ROOF/CEILING DIAPHRAGM OK

FLOOR DIAPHRAGM SHEATHING REQUIREMENTS

BUILDING WIDTH (W) = 21.83 ft
 BUILDING LENGTH (L) = 15.75 ft
 $FL_{per} = 166 \text{ plf}$
 STANDARD FLOOR SHEATHING = 19/32" MIN. OSB (UN-BLOCKED) w/ 8d NAILING @ 6"/12"
 FLOOR DIAPHRAGM SHEAR CAPACITY (ϕ) = 309 plf

$$\text{MAX FLOOR DIAPHRAGM SHEAR } (v) = \frac{L \cdot 3/4 \cdot FL_{per}}{W} = \frac{15.75 \text{ ft} \cdot 3/4 \cdot 166 \text{ plf}}{21.83 \text{ ft}} = 45 \text{ plf}$$

 DIAPHRAGM SHEAR CAPACITY REQUIRED = 45 plf < STANDARD ROOF/CEILING DIAPHRAGM CAPACITY = 309 plf

STANDARD FLOOR DIAPHRAGM OK

SHEATHING SUCTION CONNECTION (PER 2001 WFCM, TABLE 2.4, pp. 69)

TRUSS SPACING (TOC) = 24 in O.C.
 STUD SPACING (SOC) = 24 in O.C.
 0.131" x 2.5" COMMON NAIL (FACE NAILED)
 $Z \alpha = 3 \text{ ft}$
 MEAN ROOF HEIGHT ADJUSTMENT FACTOR (CMRH) = 1.196

FOR ROOF ZONE 1 (FIELD):
 $p' = 15 \text{ psf}$
 $p = p' \cdot \text{CMRH}$
 $p = 15 \text{ psf} \cdot 1.196$
 $p = 17.94 \text{ psf}$

$$\text{TRUSS LOADING} = 17.94 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} = 36 \text{ plf}$$

$$\frac{36 \text{ plf}}{69 \text{ lbs / FASTENER}} = 0.6 \text{ FASTENERS / ft} = 20 \text{ in O.C.}$$

MAX ALLOWABLE SPACING: 12 in O.C.

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12 in o.c.

FOR ROOF ZONE 2 (EDGE):
 $p' = 28.9 \text{ psf}$
 $p = p' \cdot \text{CMRH}$
 $p = 28.9 \text{ psf} \cdot 1.196$
 $p = 34.57 \text{ psf}$

$$\text{TRUSS LOADING} = 34.57 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} = 69 \text{ plf}$$

$$\frac{69 \text{ plf}}{69 \text{ lbs / FASTENER}} = 1.0 \text{ FASTENERS / ft} = 12 \text{ in O.C.}$$

MAX ALLOWABLE SPACING: 12 in O.C.

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12 in o.c.

FOR ROOF ZONE 3 (CORNER):
 $p' = 37.8 \text{ psf}$
 $p = p' \cdot \text{CMRH}$
 $p = 37.8 \text{ psf} \cdot 1.196$
 $p = 45.21 \text{ psf}$

$$\text{TRUSS LOADING} = 45.21 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} = 90 \text{ plf}$$

$$\frac{90 \text{ plf}}{69 \text{ lbs / FASTENER}} = 1.4 \text{ FASTENERS / ft} = 8 \text{ in O.C.}$$

MAX ALLOWABLE SPACING: 12 in O.C.

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 8 in o.c.

FOR ROOF ZONE 3OH (CORNER OVERHANG):

$$\begin{aligned} p' &= 47 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 47 \text{ psf} \cdot 1.195 \\ p &= 55.22 \text{ psf} \end{aligned}$$

$$\text{TRUSS LOADING} = 55.22 \text{ psf} \times 24'' \text{ o.c.} / 12'' / \text{ft} =$$

$$112 \text{ plf}$$

$$\frac{112 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$\begin{aligned} 1.7 \text{ FASTENERS / ft} &= 7 \text{ in O.C.} \\ \text{MAX ALLOWABLE SPACING} &= 12 \text{ in O.C.} \end{aligned}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 7 in o.c.

FOR WALL ZONE 4 (FIELD):

$$\begin{aligned} p' &= 15.2 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 16.2 \text{ psf} \cdot 1.195 \\ p &= 19.38 \text{ psf} \end{aligned}$$

$$\text{STUD LOADING} = 19.38 \text{ psf} \times 24'' \text{ o.c.} / 12'' / \text{ft} =$$

$$39 \text{ plf}$$

$$\frac{39 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$\begin{aligned} 0.6 \text{ FASTENERS / ft} &= 20 \text{ in O.C.} \\ \text{MAX ALLOWABLE SPACING} &= 6 \text{ in O.C.} \end{aligned}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.

FOR WALL ZONE 5 (EDGE):

$$\begin{aligned} p' &= 20.1 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 20.1 \text{ psf} \cdot 1.195 \\ p &= 24.04 \text{ psf} \end{aligned}$$

$$\text{STUD LOADING} = 24.04 \text{ psf} \times 24'' \text{ o.c.} / 12'' / \text{ft} =$$

$$48 \text{ plf}$$

$$\frac{48 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$\begin{aligned} 0.7 \text{ FASTENERS / ft} &= 17 \text{ in O.C.} \\ \text{MAX ALLOWABLE SPACING} &= 6 \text{ in O.C.} \end{aligned}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.

FIRST FLOOR ENDWALL #1 SHEATHING LENGTH REQUIREMENTS
ADJACENT TO MAIN HOUSE

FIRST FLOOR WIDTH (W_1) =	21.83 ft
FIRST FLOOR LENGTH (L_1) =	15.75 ft
SHEARWALL TYPE: THERMO-PLY (RED) SHEATHING EXTERIOR w/ 1/2" GWS INTERIOR	
SHEATHING EDGE 6d COOLER NAIL SPACING =	3 in O.C. (6d COOLER NAILS OR EQUIVALENT)
SHEARWALL STRENGTH (V) =	408 plf
MIN. SHEARWALL SEGMENT LENGTH =	2.6 ft
FULL HEIGHT SHEATHING PROVIDED (ΣL_s) =	13.83 ft
1st FL. PERCENT FULL HEIGHT SHEATHING =	63 %
1st FL. MAX. UNRESTRAINED OPENING HEIGHT =	9 ft
SHEAR ADJUSTMENT FACTOR (C_p) =	0.583 (TABLE 2305.3.7.2, IBC)
1st FL. NUMBER OF SHEARWALLS (N_{sd}) =	2
ADDITIONAL WALL LOAD =	0 lbs

$$\begin{aligned} \text{SHEARWALL REACTION (R}_{sd1}\text{)} &= L_1 \cdot W_{seal} / N_{sd} + \text{ADDITIONAL} \\ R_{sd1} &= 15.75 \text{ ft} \cdot 164 \text{ plf} / 2 + 0 \text{ lbs} = \end{aligned}$$

$$1292 \text{ lbs}$$

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS (L}_{sw}\text{)} = R_{sd1} / V =$$

$$1292 \text{ lbs} / 408 \text{ plf} =$$

$$3.17 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (ENDWALL)} = L_{sw} / C_p = 3.17 \text{ ft} / 0.583 =$$

$$5.44 \text{ ft}$$

$$\begin{aligned} \text{PERFORATED FULL HEIGHT SHEATHING} \\ \text{REQUIRED} &= 5.44 \text{ ft} \end{aligned}$$

$$\begin{aligned} \text{PERFORATED FULL HEIGHT SHEATHING} \\ \text{PROVIDED} &= 13.83 \text{ ft} \end{aligned}$$

ENDWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR ENDWALL #1: UPLIFT DUE TO OVERTURNING

$$\begin{aligned} \text{FULL HEIGHT SHEATHING PROVIDED (}\Sigma L_s\text{)} &= 13.83 \text{ ft} \\ \text{SHEARWALL ADJUSTMENT FACTOR (C}_p\text{)} &= 0.583 \\ \text{SHEARWALL REACTION (R}_{sd2}\text{)} &= 1292 \text{ lbs} \\ \text{WALL HEIGHT (H)} &= 9 \text{ ft} \end{aligned}$$

$$\text{UPLIFT FORCE (U}_{E1}\text{)} = \frac{R_{sd1} \times H}{\Sigma L_s \times C_p} =$$

$$U_{E1} = \frac{1292 \text{ lbs} \times 9 \text{ ft}}{13.83 \text{ ft} \times 0.583} =$$

$$1443 \text{ lbs}$$

SEE PAGE 14 FOR CONNECTION DESIGN

FIRST FLOOR ENDWALL #2 SHEATHING LENGTH REQUIREMENTS
OPPOSITE MAIN HOUSE

FIRST FLOOR WIDTH (W_1) =	21.83 ft
FIRST FLOOR LENGTH (L_1) =	15.75 ft
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR	
SHEATHING EDGE 8d NAIL SPACING =	6 in O.C. (8d NAILS OR EQUIVALENT)
SHEARWALL STRENGTH (V) =	384 plf
MIN. SHEARWALL SEGMENT LENGTH =	2.6 ft
FULL HEIGHT SHEATHING PROVIDED (Z_L) =	15.16 ft
1st FL. PERCENT FULL HEIGHT SHEATHING =	69 %
1st FL. MAX. UNRESTRAINED OPENING HEIGHT =	6.19 ft
SHEAR ADJUSTMENT FACTOR (C_p) =	0.757 (TABLE 2305.3.7.2, IBC)
1st FL. NUMBER OF SHEARWALLS (N_{s1}) =	2
ADDITIONAL WALL LOAD =	0 lbs

$$\text{SHEARWALL REACTION } (R_{s1}) = L_1 \cdot W_{ps1} / N_{s1} + \text{ADDITIONAL} \\ R_{s1} = 15.75 \text{ ft} \cdot 164 \text{ plf} / 2 + 0 \text{ lbs} =$$

1292 lbs

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS } (L_{s1}) = R_{s1} / V =$$

$$1292 \text{ lbs} / 384 \text{ plf} =$$

3.36 ft

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (ENDWALL)} = L_{s1} / C_p = 3.36 \text{ ft} / 0.757 =$$

4.45 ft

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 4.45 ft

<

PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 15.16 ftENDWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR ENDWALL #2: UPLIFT DUE TO OVERTURNING

FULL HEIGHT SHEATHING PROVIDED (Z_L) =	15.16 ft
SHEARWALL ADJUSTMENT FACTOR (C_p) =	0.757
SHEARWALL REACTION (R_{s1}) =	1292 lbs
WALL HEIGHT (H) =	9 ft

$$\text{UPLIFT FORCE } (U_{E1}) = \frac{R_{s1} \times H}{\sum L_1 \times C_p} =$$

$$U_{E1} = \frac{1292 \text{ lbs} \times 9 \text{ ft}}{15.16 \times 0.757} =$$

1014 lbs

SEE PAGE 14 FOR CONNECTION DESIGN

FIRST FLOOR ENDWALL: SHEAR CONNECTIONS

FIRST FLOOR WIDTH (W_1) =	21.83 ft
FIRST FLOOR LENGTH (L_1) =	15.75 ft
FL_{ps1} =	166 plf
1/2" ANCHOR BOLT	Z = 1056 lbs
5/8" ANCHOR BOLT	Z = 1488 lbs
0.162" x 3.5" COMMON NAIL (TOENAIL)	Z = 158 lbs
(1) SIMPSON LTP4 PLATE	Z = 575 lbs

MAXIMUM FIRST FLOOR ENDWALL SHEAR LOAD = 1292 lbs

TRUSS BOTTOM CHORD TO TOP PLATE CONNECTION:

# TOENAILS PER FOOT =	$V / Z / W = 1292 \text{ lbs} / 158 \text{ lbs} / 21.83 \text{ ft} =$	0.4 NAILS / ft
TOENAIL SPACING =	$12 / \# = 12 / 0.4 =$	16" O.C. (16" MAX)
# LTP4 PLATES PER FOOT =	$V / Z / W = 1292 \text{ lbs} / 575 \text{ lbs} / 21.83 \text{ ft} =$	0.1 PLATES / ft
LTP4 PLATE SPACING =	$12 / \# = 12 / 0.1 =$	72" O.C. (72" MAX)

USE 0.162" x 3.5" COMMON NAIL (TOENAIL) @ 16" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 72" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 1292 lbs

RIMBAND TO SILL PLATE CONNECTION:

$$V = \text{MAX ENDWALL SHEAR} + L_1 \times (3/4 \times F_{L_{top}}) / 2 =$$

$$V = 1292 \text{ lbs} + 15.75 \text{ ft} \times (3/4 \times 166 \text{ plf}) / 2$$

2272 lbs

$$\# \text{ TOENAILS PER FOOT} = V / Z / W = 2272 \text{ lbs} / 153 \text{ lbs} / 21.83 \text{ ft} = 0.7 \text{ NAILS / ft}$$

$$\text{TOENAIL SPACING} = 12 / \# = 12 / 0.7 = 16" \text{ O.C. (16" MAX)}$$

$$\# \text{ LTP4 PLATES PER FOOT} = V / Z / W = 2272 \text{ lbs} / 575 \text{ lbs} / 21.83 \text{ ft} = 0.2 \text{ PLATES / ft}$$

$$\text{LTP4 PLATE SPACING} = 12 / \# = 12 / 0.2 = 66" \text{ O.C. (72" MAX)}$$

USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 16" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 66" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2273 lbs

SILL PLATE TO FOUNDATION CONNECTION:

$$\# 1/2" \text{ ANCHOR BOLTS} = V / Z = 2272 \text{ lbs} / 1056 \text{ lbs} = 3 \text{ BOLTS}$$

$$\text{BOLT SPACING} = (W - 2) / (N - 1) = (21.83 \text{ ft} - 2) / (3 - 1) = 72 \text{ in}$$

USE 1/2" ANCHOR BOLTS @ 72" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2273 lbs

$$\# 5/8" \text{ ANCHOR BOLTS} = V / Z = 2272 \text{ lbs} / 1488 \text{ lbs} = 2 \text{ BOLTS}$$

$$\text{BOLT SPACING} = (W - 2) / (N - 1) = (21.83 \text{ ft} - 2) / (2 - 1) = 72 \text{ in}$$

USE 5/8" ANCHOR BOLTS @ 72" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2273 lbs

CHECK SHEATHING TO RIMBAND CONNECTION:

UNIT SHEAR CHECK:

$$\text{SHEAR FORCE (V)} = \frac{R_{end}}{\sum L_1 \times C_u} =$$

$$\text{FIRST FLOOR ENDWALL \#1: } V = \frac{1292 \text{ lbs}}{13.83 \times 0.593} = 161 \text{ plf}$$

$$\text{FIRST FLOOR ENDWALL \#2: } V = \frac{1292 \text{ lbs}}{16.16 \times 0.757} = 113 \text{ plf}$$

$$\text{MAXIMUM FIRST FLOOR ENDWALL UNIT SHEAR} = 161 \text{ plf}$$

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

$$\# \text{d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER } Z = 95 \text{ lbs}$$

$$\# \text{ OF 8d NAILS PER FOOT} = \frac{V}{Z} = \frac{161 \text{ plf}}{95 \text{ lbs / NAIL}} = 1.7 \text{ NAILS PER FOOT}$$

$$\# \text{ OF 8d NAILS PER FOOT} = 1.7 \text{ NAILS PER FOOT}$$

$$\text{OVERALL 8d NAIL SPACING} = 12 / \# = 12 / 1.7 = 7.05" \text{ O.C.}$$

$$\# \text{ OF ROWS} = 1 \text{ ROW(S)}$$

$$\text{8d NAIL SPACING WITHIN EACH ROW} = 1" \text{ SPACING } 1" \times 7.05 \text{ o.c. } 6" \text{ O.C.}$$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 161 plf

UNIT UPLIFT CHECK: (EQUAL TO UNIT SHEAR)

CHECK #8d NAILS REQUIRED FOR SHEATHING CONNECTION:

8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER $Z = 95 \text{ lbs}$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{161 \text{ plf}}{95 \text{ lbs / NAIL}}$$

$\# \text{ OF } 8d \text{ NAILS PER FOOT} = 1.7 \text{ NAILS PER FOOT}$

OVERALL 8d NAIL SPACING = $12 / \# = 12 / 1.7 = 7.05" \text{ O.C.}$

$\# \text{ OF ROWS} = 1 \text{ ROW(S)}$

8d NAIL SPACING WITHIN EACH ROW = $1" \text{ SPACING } 1" \times 7.05 \text{ o.c. } 6" \text{ O.C.}$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 161 plf

ALTERNATE SHEATHING CONNECTION FOR UNIT UPLIFT (GLUE):

200 psi MINIMUM CONSTRUCTION ADHESIVE $V = 161 \text{ plf}$

$Z = 200 \text{ psi (FACE)}$

WIDTH OF GLUE REQUIRED FOR SHEATHING CONNECTION ALONG FLOOR BAND:

$$\text{WIDTH OF GLUE STRIP REQUIRED} = \frac{V}{Z} = \frac{161 \text{ plf}}{200 \text{ psi} \times 12" / \text{ft}} = 1"$$

FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

FIRST FLOOR SIDEWALL #1 SHEATHING LENGTH REQUIREMENTS
DEN

FIRST FLOOR WIDTH (W_1) = 21.83 ft

FIRST FLOOR LENGTH (L_1) = 15.75 ft

SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR

SHEATHING EDGE 8d NAIL SPACING = 6 in O.C. (8d NAILS OR EQUIVALENT)

SHEARWALL STRENGTH (V) = 384 plf

MIN. SHEARWALL SEGMENT LENGTH = 2.6 ft

FULL HEIGHT SHEATHING PROVIDED (ΣL) = 9.42 ft

1st FL. PERCENT FULL HEIGHT SHEATHING = 60 %

1st FL. MAX. UNRESTRAINED OPENING HEIGHT = 6.8 ft

SHEAR ADJUSTMENT FACTOR (C_n) = 0.665 (TABLE 2305.3.7.2, IBC)

1st FL. NUMBER OF SHEARWALLS (N_{shear}) = 2

ADDITIONAL WALL LOAD = 0 lbs

SHEARWALL REACTION (R_{shear}) = $W_1 \times W_{floor} / N_{shear} + \text{ADDITIONAL} =$

$$R_{shear} = 21.83 \text{ ft} \times 102 \text{ plf} / 2 + 0 \text{ lbs} = 1114 \text{ lbs}$$

MIN. LENGTH SEGMENTED SHEARWALLS (L_{seg}) = $R_{shear} / V = 1114 \text{ lbs} / 384 = 2.90 \text{ ft}$

PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (SIDEWALL) = $L_{seg} / C_n = 2.9 \text{ ft} / 0.665 = 4.37 \text{ ft}$

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 4.37 ft

PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 9.42 ft

SIDEWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR SIDEWALL #1: UPLIFT DUE TO OVERTURNING

FULL HEIGHT SHEATHING PROVIDED (ΣL) = 9.42 ft

SHEARWALL ADJUSTMENT FACTOR (C_n) = 0.665

SHEARWALL REACTION (R_{shear}) = 1114 lbs

WALL HEIGHT (H) = 9 ft

UPLIFT FORCE (U_{Et}) = $\frac{R_{shear} \times H}{\Sigma L \times C_n}$

$$U_{Et} = \frac{1114 \text{ lbs} \times 9 \text{ ft}}{9.42 \times 0.665} = 1601 \text{ lbs}$$

SEE PAGE 14 FOR CONNECTION DESIGN

FIRST FLOOR SIDEWALL #2 SHEATHING LENGTH REQUIREMENTS
BATH #1

FIRST FLOOR WIDTH (W_1) =	21.83 ft	
FIRST FLOOR LENGTH (L_1) =	15.75 ft	
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR		
SHEATHING EDGE 8d NAIL SPACING =	6 in O.C. (8d NAILS OR EQUIVALENT)	
SHEARWALL STRENGTH (V) =	384 plf	
MIN. SHEARWALL SEGMENT LENGTH =	2.6 ft	
FULL HEIGHT SHEATHING PROVIDED (ΣL_1) =	9.04 ft	
1st FL. PERCENT FULL HEIGHT SHEATHING =	57 %	
1st FL. MAX. UNRESTRAINED OPENING HEIGHT =	6.2 ft	
SHEAR ADJUSTMENT FACTOR (C_D) =	0.689 (TABLE 2305.3.7.2, IBC)	
1st FL. NUMBER OF SHEARWALLS (N_{she}) =	2	
ADDITIONAL WALL LOAD =	0 lbs	
SHEARWALL REACTION (R_{she1}) = $W_1 \cdot W_{FEMA} / N_{she} + \text{ADDITIONAL}$		
$R_{she1} = 21.83 \text{ ft} \cdot 102 \text{ plf} / 2 + 0 \text{ lbs} =$	1114 lbs	

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS } (L_{seg}) = R_{she1} / V = 1114 \text{ lbs} / 384 \text{ plf} = 2.90 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (SIDEWALL)} = L_{seg} / C_D = 2.9 \text{ ft} / 0.689 = 4.22 \text{ ft}$$

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 4.22 ft

PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 9.04 ft

SIDEWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR SIDEWALL #2: UPLIFT DUE TO OVERTURNING

FULL HEIGHT SHEATHING PROVIDED (ΣL_1) =	9.04 ft
SHEARWALL ADJUSTMENT FACTOR (C_D) =	0.689
SHEARWALL REACTION (R_{she1}) =	1114 lbs
WALL HEIGHT (H) =	9 ft

$$\text{UPLIFT FORCE } (U_{E1}) = \frac{R_{she1} \times H}{\Sigma L_1 \times C_D} =$$

$$U_{E1} = \frac{1114 \text{ lbs} \times 9 \text{ ft}}{9.04 \times 0.689} = 1610 \text{ lbs}$$

SEE PAGE 14 FOR CONNECTION DESIGN

FIRST FLOOR SIDEWALL: SHEAR CONNECTIONS

FIRST FLOOR WIDTH (W_1) =	21.83 ft	
FIRST FLOOR LENGTH (L_1) =	15.75 ft	
$F_{L_{para}}$ =	114 plf	
$W_{L_{para}}$ =	102 plf	
1/2" ANCHOR BOLT	Z =	1055 lbs
5/8" ANCHOR BOLT	Z =	1468 lbs
0.162" x 3.5" COMMON NAIL (TOENAILED)	Z =	158 lbs
(1) SIMPSON LTP4 PLATE	Z =	575 lbs

$$\text{MAXIMUM FIRST FLOOR SIDEWALL SHEAR LOAD} = 1114 \text{ lbs}$$

RIMBAND TO SILL PLATE CONNECTION:

$$V = \text{MAX SIDEWALL SHEAR} + W_1 \times (3/4 \times F_{L_{para}}) / 2 = 1114 \text{ lbs} + 21.83 \text{ ft} \times (3/4 \times 114 \text{ plf}) / 2 = 2047 \text{ lbs}$$

$$\# \text{ TOENAILS PER FOOT} = V / Z / L_1 = 2047 \text{ lbs} / 158 \text{ lbs} / 15.75 \text{ ft} = 0.8 \text{ NAILS / ft}$$

$$\text{TOENAIL SPACING} = 12 / \# = 12 / 0.8 = 14 \text{ " O.C. (16" MAX)}$$

$$\# \text{ LTP4 PLATES PER FOOT} = V / Z / W = 2047 \text{ lbs} / 575 \text{ lbs} / 15.75 \text{ ft} = 0.2 \text{ PLATES / ft}$$

$$\text{LTP4 PLATE SPACING} = 12 / \# = 12 / 0.2 = 63 \text{ " O.C. (72" MAX)}$$

USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 14" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 53" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2048 lbs

SILL PLATE TO FOUNDATION CONNECTION:

$$\# 1/2" \text{ ANCHOR BOLTS} = \frac{V}{Z} = 2047 \text{ lbs} / 1056 \text{ lbs} = 2 \text{ BOLTS}$$

$$\text{BOLT SPACING} = (L - 2) / (N - 1) = (15.75 \text{ ft} - 2) / (2 - 1) = 72 \text{ in}$$

USE 1/2" ANCHOR BOLTS @ 72" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2048 lbs

$$\# 5/8" \text{ ANCHOR BOLTS} = \frac{V}{Z} = 2047 \text{ lbs} / 1488 \text{ lbs} = 2 \text{ BOLTS}$$

$$\text{BOLT SPACING} = (L - 2) / (N - 1) = (15.75 \text{ ft} - 2) / (2 - 1) = 72 \text{ in}$$

USE 5/8" ANCHOR BOLTS @ 72" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 2048 lbs

CHECK SHEATHING TO RIMBAND CONNECTION:

UNIT SHEAR CHECK:

$$\text{SHEAR FORCE (V)} = \frac{R_{\text{wall}}}{\sum L_i \times C_u} =$$

$$\text{FIRST FLOOR SIDEWALL \#1: } V = \frac{1114 \text{ lbs}}{9.42 \times 0.665} = 178 \text{ plf}$$

$$\text{FIRST FLOOR SIDEWALL \#2: } V = \frac{1114 \text{ lbs}}{9.04 \times 0.689} = 179 \text{ plf}$$

$$\text{MAXIMUM FIRST FLOOR SIDEWALL UNIT SHEAR} = 179 \text{ plf}$$

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

$$8d \text{ COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER } Z = 95 \text{ lbs}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{179 \text{ plf}}{95 \text{ lbs / NAIL}}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = 1.89 \text{ NAILS PER FOOT}$$

$$\text{OVERALL } 8d \text{ NAIL SPACING} = 12 / \# = 12 / 1.89 = 6.34" \text{ O.C.}$$

$$\# \text{ OF ROWS: } 1 \text{ ROW(S)}$$

$$8d \text{ NAIL SPACING WITHIN EACH ROW} = 1" \text{ SPACING } 1" \times 6.34 \text{ o.c. } 6" \text{ O.C.}$$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 179 plf

UNIT UPLIFT CHECK: (EQUAL TO UNIT SHEAR)

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

$$8d \text{ COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER } Z = 95 \text{ lbs}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{179 \text{ plf}}{95 \text{ lbs / NAIL}}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = 1.89 \text{ NAILS PER FOOT}$$

$$\text{OVERALL } 8d \text{ NAIL SPACING} = 12 / \# = 12 / 1.89 = 6.34" \text{ O.C.}$$

$$\# \text{ OF ROWS: } 1 \text{ ROW(S)}$$

$$8d \text{ NAIL SPACING WITHIN EACH ROW} = 1" \text{ SPACING } 1" \times 6.34 \text{ o.c. } 6" \text{ O.C.}$$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 6" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 179 plf

ALTERNATE SHEATHING CONNECTION FOR UNIT UPLIFT (GLUE):

$$V = 179 \text{ plf}$$

200 psi MINIMUM CONSTRUCTION ADHESIVE

$$Z = 200 \text{ psi (FACE)}$$

WIDTH OF GLUE REQUIRED FOR SHEATHING CONNECTION ALONG FLOOR BAND:

$$\text{WIDTH OF GLUE STRIP REQUIRED} = \frac{V}{Z} = \frac{179 \text{ plf}}{200 \text{ psi} \cdot 12 \text{ in./ft}} = 1 \text{ in.}$$

FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

COMBINED CORNER HOLDDOWN REQUIREMENTS

UPLIFT FORCES: (SEE ABOVE FOR CALCULATIONS)

1st FLOOR ENDWALL #1 UPLIFT FORCE (U_{E1}) =	1443 lbs
1st FLOOR ENDWALL #2 UPLIFT FORCE (U_{E2}) =	1014 lbs
1st FLOOR SIDEWALL #1 UPLIFT FORCE (U_{S1}) =	1601 lbs
1st FLOOR SIDEWALL #2 UPLIFT FORCE (U_{S2}) =	1610 lbs

DEAD LOADS:

FIRST FLOOR WIDTH (W_1) =	21.83 ft (MAX: 4' CEILING HEIGHT)
FIRST FLOOR LENGTH (L_1) =	15.75 ft (MAX: 4' CEILING HEIGHT)
FIRST FLOOR HEIGHT (H_1) =	9 ft
ROOF & CEILING ASSEMBLY DEAD LOAD (RDL) =	15 psf
WALL DEAD LOAD (WDL) =	12 psf
FLOOR DEAD LOAD (FDL) =	10 psf

SIDEWALL FIRST FLOOR CORNER:

ROOF DEAD LOAD = $0.6 \cdot \text{RDL} \cdot W_1 \cdot L_1 / 8 =$	
ROOF DEAD LOAD = $0.6 \cdot 15 \text{ psf} \cdot 21.83 \text{ ft} \cdot 15.75 \text{ ft} / 8 =$	387 lbs
WALL DEAD LOAD = $0.6 \cdot \text{WDL} \cdot H_1 \cdot L_1 / 2 =$	
WALL DEAD LOAD = $0.6 \cdot 12 \text{ psf} \cdot 9 \text{ ft} \cdot 15.75 \text{ ft} / 2 =$	510 lbs
1st FLOOR DEAD LOAD = $0.6 \cdot \text{FDL} \cdot W_1 \cdot L_1 / 8 =$	
1st FLOOR DEAD LOAD = $0.6 \cdot 10 \text{ psf} \cdot 21.83 \text{ ft} \cdot 15.75 \text{ ft} / 8 =$	258 lbs
TOTAL DEAD LOAD = $510 \text{ lbs} + 387 \text{ lbs} + 258 \text{ lbs} =$	1155 lbs

$$\text{CORNER STUD CONNECTION LOAD} = \text{MAX WALL UPLIFT} - \text{SELF WEIGHT}$$

$$1610 \text{ lbs} - 1155 \text{ lbs} =$$

455 lbs

ENDWALL FIRST FLOOR CORNER:

WALL DEAD LOAD = $0.6 \cdot \text{WDL} \cdot H_1 \cdot W_1 / 2 =$	
WALL DEAD LOAD = $0.6 \cdot 12 \text{ psf} \cdot 9 \text{ ft} \cdot 21.83 \text{ ft} / 2 =$	708 lbs
GABLE WALL DEAD LOAD = $0.6 \cdot \text{WDL} \cdot (H_1 / 2) \cdot W_1 / 2 =$	
GABLE WALL DEAD LOAD = $0.6 \cdot 12 \text{ psf} \cdot (9 / 2) \cdot (21.83 \text{ ft} / 2) =$	322 lbs
TOTAL DEAD LOAD = $708 \text{ lbs} + 322 \text{ lbs} =$	1030 lbs

$$\text{CORNER STUD CONNECTION LOAD} = \text{MAX WALL UPLIFT} - \text{SELF WEIGHT}$$

$$1443 \text{ lbs} - 1030 \text{ lbs} =$$

413 lbs

FIRST FLOOR HOLDDOWNS

$$\text{UPLIFT FORCE} = 1610 \text{ lbs (MAX. OF FIRST FLOOR UPLIFT FORCES)}$$

$$\text{FIRST FLOOR DEAD LOAD (DL)} = 1155 \text{ lbs} + 1030 \text{ lbs} = 2185 \text{ lbs}$$

$$\text{HOLDDOWN FORCE} = 1610 \text{ lbs} - 2185 \text{ lbs} = 0 \text{ lbs}$$

NO PHYSICAL HOLDDOWN REQUIRED

FIRST FLOOR CORNER STUD CONNECTION

$$0.162 \text{ in.} \times 3.5 \text{ COMMON NAIL (FACE NAILED)} \quad Z = 191 \text{ lbs}$$

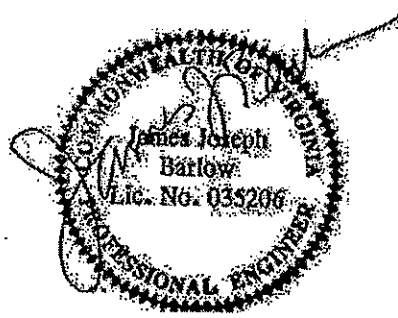
$$\text{MAX CORNER STUD CONNECTION LOAD} = 455 \text{ lbs}$$

$$\text{NAIL SPACING (2 ROWS)} = \frac{2 \cdot H \cdot Z}{U} = \frac{2 \cdot 9 \text{ ft} \cdot 191 \text{ lbs}}{455 \text{ lbs}} = 18 \text{ in O.C. (16" MAX)}$$

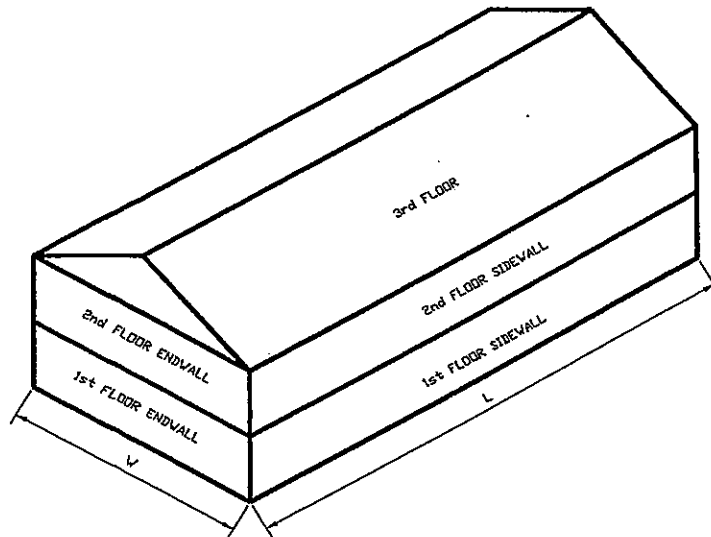
$$\# \text{ OF } 1/4 \text{ DIA. LAG SCREW REQUIRED} = \frac{U}{Z} = \frac{455 \text{ lbs}}{224 \text{ lbs}} = 6 \text{ LAG SCREWS (6 MIN)}$$

FASTEN CORNER STUDS 2 ROWS OF 16d COMMON NAILS @ 16" ON CENTER
OR USE (6) 1/4" DIA. LAG SCREWS

Section 2
HIGH WIND CALCULATIONS
MAIN HOUSE



11/16/12



BUILDING INFORMATION:

JOB NUMBER =	110376
PLAN NAME / NUMBER =	C-484709-2
FIRST FLOOR WIDTH (W ₁) =	48.08 ft
SECOND FLOOR WIDTH (W ₂) =	48.08 ft
FIRST FLOOR LENGTH (L ₁) =	42.67 ft
SECOND FLOOR LENGTH (L ₂) =	42.67 ft
ROOF SPAN =	29.17 ft
TRUSS SPACING (TOS) =	24 in
STUD SPACING (SOC) =	24 in
WIND SPEED (V _{3S}) =	90 mph
EXPOSURE FACTOR =	C
MEAN ROOF HEIGHT ADJUSTMENT FACTOR (CMRH) =	1.330
WALL HEIGHT ADJUSTMENT FACTOR FOR FLOORS (CWH) =	H / B = 1.125
WALL HEIGHT ADJUSTMENT FACTOR FOR ROOF (CWH) =	H / B = 1.063

SHEARWALL SUMMARY:

- FIRST FLOOR ENDWALL #1: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
LIBRARY / LIVING WITH 8d COMMON NAILS SPACED AT 3" EDGE
- FIRST FLOOR ENDWALL #2: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR, DOUBLE STUDS
FAMILY / DINING WITH 8d COMMON NAILS SPACED AT 2" EDGE
- FIRST FLOOR SIDEWALL #1: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
SUN ROOM / FAMILY WITH 8d COMMON NAILS SPACED AT 4" EDGE
- FIRST FLOOR SIDEWALL #2: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
LIVING / DINING WITH 8d COMMON NAILS SPACED AT 4" EDGE
- SECOND FLOOR ENDWALL #1: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
BEDROOMS #3 & #4 WITH 8d COMMON NAILS SPACED AT 6" EDGE
- SECOND FLOOR ENDWALL #2: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
BEDROOMS #1 & #2 WITH 8d COMMON NAILS SPACED AT 6" EDGE
- SECOND FLOOR SIDEWALL #1: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
BEDROOMS #1 & #4 WITH 8d COMMON NAILS SPACED AT 6" EDGE
- SECOND FLOOR SIDEWALL #2: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR
BEDROOMS #2 & #3 WITH 8d COMMON NAILS SPACED AT 6" EDGE

PREPARED BY:
BARLOW ENGINEERING, P.C.
6612 SIX FORKS RD, SUITE 104
RALEIGH, NC 27615

ROOF SHEATHING: 7/16" OSB (UN-BLOCKED) w/ 8d NAILING @ 6"12"

CEILING SHEATHING: 1/2" GWB (UN-BLOCKED) w/ FASTENERS @ 7"7"

FLOOR SHEATHING: 19/32" MIN. OSB (UN-BLOCKED) w/ 8d NAILING @ 6"12"

SHEATHING SUCTION FASTENING:

FOR ROOF ZONE 1: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 12 in o.c.
FOR ROOF ZONE 2: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 10 in o.c.
FOR ROOF ZONE 3 (CORNER): USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 8 in o.c.
FOR ROOF ZONE 30H (CORNER OVERHANG): USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.
FOR WALL ZONE 4: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.
FOR WALL ZONE 5: USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.
EDGE DIMENSION, Z = 5 ft

CONNECTION SUMMARY:

CONNECTIONS TO BE AS SPECIFIED OR EQUIVALENT

UPLIFT CONNECTIONS

REQUIRED TRUSS TIE DOWN: USE A SIMPSON H10 EACH TRUSS
OR USE (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE)
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 551 lbs

2nd FLOOR STUD TO TOP PLATE / CEILING BAND: USE A 1.5" x 22 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
OR WITH (12) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 551 lbs

2nd FLOOR STUD TO FLOOR BAND: USE A 1.5" x 22 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
OR WITH (12) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 429 lbs

2nd FLOOR BAND TO 1st CEILING BAND: USE A 1.5" x 22 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
OR WITH (12) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 429 lbs

1st FLOOR STUD TO CEILING BAND: USE A 1.5" x 22 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
OR WITH (12) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 342 lbs

1st FLOOR STUD TO FLOOR BAND: USE A 1.5" x 22 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
OR WITH (12) 16 ga. STAPLE(S) EACH END
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 213 lbs

FLOOR BAND TO SILL PLATE CONNECTION: USE A 1.5" x 26 ga. STRAP WITH (3) 8d NAIL(S) EACH END
OR WITH (4) 16 ga. STAPLE(S) EACH END
WRAPPED AROUND THE SILL PLATE AT EACH ANCHOR BOLT LOCATION
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 158 lbs

LATERAL CONNECTIONS

TRUSS TO TOP PLATE CONNECTION: USE (0) 0.131" x 2.5" COMMON NAIL (TOENAILED) PER TRUSS
IF (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE) TRUSS CONNECTION IS USED, ABOVE CONNECTION MAY BE OMITTED

PLATE TO PLATE CONNECTION: ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 11" ON CENTER

PLATE TO STUD CONNECTION: USE (2) 0.162" x 3.5" COMMON NAIL (ENDNAILED) PER STUD

BOTTOM PLATE TO FLOOR CONNECTION: ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 11" ON CENTER

TOP PLATE SPLICES

TOP PLATE SPLICES SHALL BE A MINIMUM OF 1 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAILED)) 3" o.c.
OR A MINIMUM OF 3 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAILED)) 12" o.c.

HORIZONTAL FLOOR DIAPHRAGM CONTINUITY

SECOND FLOOR
MODULE TO MODULE CONNECTION AT FLOOR RIMBAND; (ALONG MATE LINE)
USE A MIN. OF (5) 1/2" DIA. THRU BOLTS

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND; (AT ENDWALLS)
USE A 1.5" x 20 ga. STRAP WITH (7) 8d NAIL(S) EACH END
OR WITH (16) 16 ga. STAPLE(S) EACH END
TO ATTACH MODULE TO MODULE AT EACH ENDWALL
OR CONNECTION TO WITHSTAND A TENSILE FORCE OF 854 lbs

FIRST FLOOR

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND: (ALONG MATE LINE)
USE A MIN. OF (5) 1/2" DIA. THRU BOLTS

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND: (AT ENDWALLS)
USE A 1.5" x 22 ga. STRAP WITH (6) 8d NAIL(S) EACH END
OR WITH (14) 16 ga. STAPLE(S) EACH END
TO ATTACH MODULE TO MODULE AT EACH ENDWALL
OR CONNECTION TO WITHSTAND A TENSILE FORCE OF 840 lbs

SHEAR CONNECTIONS

SECOND FLOOR ENDWALL

UNIT SHEAR SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
(AND SHEATHING TO TRUSS BOTTOM CHORD) OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 318 plf

UNIT UPLIFT SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 318 plf

ALTERNATE: FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

TRUSS BOTTOM CHORD TO TOP PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 12" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 46" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 4353 lbs

RIMBANDS TO BOTTOM / BEARING / TOP PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 8" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 24" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 6300 lbs

BEARING PLATE TO CEILING BAND CONNECTION: USE 0.162" x 3.5" COMMON NAIL (FACE NAILED) @ 8" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 24" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 8300 lbs

SECOND FLOOR SIDEWALL

UNIT SHEAR SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 308 plf

UNIT UPLIFT SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 308 plf

ALTERNATE: FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

RIMBANDS TO BOTTOM, BEARING & TOP PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 10" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 37" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 7935 lbs

BEARING PLATE TO CEILING BAND CONNECTION: USE 0.162" x 3.5" COMMON NAIL (FACE NAILED) @ 12" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 37" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 7935 lbs

FIRST FLOOR ENDWALL

UNIT SHEAR SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 2 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 604 plf

UNIT UPLIFT SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 2 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 604 plf

ALTERNATE: FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

RIMBAND TO SILL PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 4" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 16" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 11261 lbs

SILL PLATE TO FOUNDATION CONNECTION: USE 1/2" ANCHOR BOLTS @ 25" O.C.
OR USE 5/8" ANCHOR BOLTS @ 41" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 11261 lbs

FIRST FLOOR SIDEWALL

UNIT SHEAR SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 2" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 608 plf

UNIT UPLIFT SHEATHING TO FLOOR BAND: USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 2" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 608 plf

ALTERNATE: FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

RIMBAND TO SILL PLATE CONNECTION: USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 7" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 28" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 10207 lbs

SILL PLATE TO FOUNDATION CONNECTION: USE 1/2" ANCHOR BOLTS @ 54" O.C.
OR USE 5/8" ANCHOR BOLTS @ 72" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 10207 lbs

HOLDDOWN CONNECTIONS

NOTE: OVERTURNING UPLIFT HOLDDOWNS HAVE BEEN INDIVIDUALLY CALCULATED FOR SOME STRUCTURE CORNERS
SEE PAGE 3 OF THE HAND CALCS FOR THESE VALUES & CONNECTIONS, WHICH TAKE PRECEDENCE OVER THOSE LISTED BELOW

SECOND FLOOR CORNER HOLDDOWN: NO PHYSICAL HOLDDOWN REQUIRED

SECOND FLOOR CORNER STUD CONNECTION: FASTEN CORNER STUDS 2 ROWS OF 16d COMMON NAILS @ 16" ON CENTER
OR USE (6) 1/4" DIA. LAG SCREWSFIRST FLOOR CORNER HOLDDOWN: USE A SIMPSON STHD10RJ AT EACH BUILDING CORNER OR EQUAL
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 2723 lbsFIRST FLOOR CORNER STUD CONNECTION: FASTEN CORNER STUDS 2 ROWS OF 16d COMMON NAILS @ 7" ON CENTER
OR USE (26) 1/4" DIA. LAG SCREWS

APPLICABILITY LIMITATIONS:

MEAN ROOF HEIGHT (MRH) =	25.97 ft
NUMBER OF STORIES =	2
FIRST FLOOR WIDTH (W ₁) =	48.09 ft
SECOND FLOOR WIDTH (W ₂) =	48.08 ft
FIRST FLOOR LENGTH (L ₁) =	42.67 ft
SECOND FLOOR LENGTH (L ₂) =	42.67 ft
BUILDING ASPECT RATIO (L/W) =	0.89
FLOOR JOIST DEPTH =	9.25 in
MAX. VERTICAL FLOOR OFFSET =	0 in
FLOOR ASPECT RATIO (L/W) =	0.89
MAX. FLOOR DIAPHRAGM OPENING WIDTH =	11.25 ft
MAX. FLOOR DIAPHRAGM OPENING LENGTH =	4 ft
FIRST FLOOR HEIGHT (H ₁) =	9 ft
SECOND FLOOR HEIGHT (H ₂) =	8.5 ft
CEILING ASPECT RATIO (L/W) =	0.89
MIN. SHEARWALL SEGMENT (H / 3.5) =	2.43 ft
ROOF PITCH =	9 / 12

DESIGN MEETS LIMITATIONS OF THE WFCM METHODOLOGY

CONNECTION INFORMATION:

TRUSS TO PLATE CONNECTORS

UPLIFT STRENGTH:			SHEAR STRENGTH:	
SIMPSON H2.5	U =	365 lbs	F ₂ =	130 lbs
SIMPSON H2.5A	U =	480 lbs	F ₂ =	110 lbs
SIMPSON H10	U =	850 lbs	F ₂ =	235 lbs
(5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE)			U =	834 lbs
			F ₂ =	486 lbs
			Z =	100 psi (END-GRAIN)
200 psi MINIMUM CONSTRUCTION ADHESIVE			Z =	200 psi (FACE)
FLAT STRAPS			FASTENERS: 8d NAIL	
1.5" x 26 ga. STRAP	Z =	465 lbs	16 ga. STAPLE	
1.5" x 22 ga. STRAP	Z =	810 lbs	Z =	76.7
1.5" x 20 ga. STRAP	Z =	973 lbs	Z =	49.9 lbs
(2) 1.5" x 22 ga. STRAP	Z =	1620 lbs	Z =	127.2
(2) 1.5" x 20 ga. STRAP	Z =	1946 lbs	Z =	48.5 lbs
			Z =	127.3
			Z =	48.3 lbs
			Z =	129.4
			Z =	46.4 lbs
			Z =	131.4
			Z =	46 lbs

HOLDDOWNS w/ 1 1/2" EDGE DISTANCE

MINIMUM 8" STEM WALL

ASSUME 3000 psi Fe CONCRETE

SIMPSON LSTHD8RJ	Z =	1950 lbs
SIMPSON STHD10RJ	Z =	3230 lbs
SIMPSON STHD14RJ	Z =	4430 lbs
(2) SIMPSON STHD14RJ	Z =	8860 lbs
1/2" DIA. THRU BOLT	Z =	623 lbs
1/2" ANCHOR BOLT	Z =	1056 lbs
5/8" ANCHOR BOLT	Z =	1489 lbs
1/4" DIA. LAG SCREW	Z =	224 lbs
0.131" x 2.5" COMMON NAIL (FACE NAILED)	Z =	100 lbs
0.131" x 2.5" COMMON NAIL (TOENAILED)	Z =	83 lbs
0.131" x 2.5" COMMON NAIL (ENDNAILED)	Z =	67 lbs
0.162" x 3.5" COMMON NAIL (TOENAILED)	Z =	158 lbs
0.162" x 3.5" COMMON NAIL (FACE NAILED)	Z =	191 lbs

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0.162" x 3.5" COMMON NAIL (ENDNAILED)	Z =	128 lbs
8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER	Z =	95 lbs
0.131" x 2.5" COMMON NAIL (FACE NAILED)	Z =	68 lbs (WITHDRAWAL)
(1) SIMPSON LTP4 PLATE	Z =	575 plf
1/2" GWB (UN-BLOCKED) w/ FASTENERS @ 7"7"	Z =	70 plf
7/16" OSB (UN-BLOCKED) w/ 8d NAILING @ 6"12"	Z =	296 plf
7/16" OSB (BLOCKED) w/ 8d NAILING @ 6"12"	Z =	328 plf
19/32" MIN. OSB (UN-BLOCKED) w/ 8d NAILING @ 6"12"	Z =	309 plf
19/32" MIN. OSB (BLOCKED) w/ 8d NAILING @ 6"12"	Z =	347 plf
7/16" OSB (BLOCKED) w/ 8d NAILING @ 6"12" & 4" o.c. @ PERIMETER	Z =	437 plf
19/32" OSB (BLOCKED) w/ 8d NAILING @ 6"12" & 4" o.c. @ PERIMETER	Z =	461 plf
19/32" OSB (BLOCKED) w/ 8d NAILING @ 4"12" & 2 1/2" o.c. @ PERIMETER, DOUBLE FRAMING	Z =	694 plf

NOTE: SIMPSON CONNECTORS & FASTEN VALUES ASSUME SPF FRAMING MATERIAL
ANCHOR BOLT VALUES ASSUME DF/SP VALUES

DESIGN UPLIFT LOADS

ROOF & CEILING ASSEMBLY DEAD LOAD =	15 psf
WALL DEAD LOAD (WDL) =	12 psf
FLOOR DEAD LOAD (FDL) =	10 psf
ROOF SPAN (RS) =	29.17 ft
TRUSS SPACING (TOC) =	24 in
STUD SPACING (SOC) =	24 in
FIRST FLOOR HEIGHT (H ₁) =	9 ft
SECOND FLOOR HEIGHT (H ₂) =	8.5 ft

UPLIFT CONNECTION LOAD:

PER TABLE 2.2A, 2001 WFCM AT 24' (w_{up}) = 256 plf
 $w_{up} = w_{up} * CMRH - 0.6 * RDL * RS / 4 =$
 $w_{up} = 256 \text{ plf} * 1.33 - 0.6 * 15 \text{ psf} * 29.17 \text{ ft} / 4 =$ 275 plf

REQUIRED TRUSS TIE DOWN:

$P_{up} = w_{up} * TOC =$
 $P_{up} = 275 \text{ plf} * 24 \text{ in} / 12 =$
 $P_{up} = 551 \text{ lbs}$

USE A SIMPSON H10 EACH TRUSS
 OR USE (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (3) #8 x 4.5" TOE-SCREWS (TRUSS TO PLATE)
 OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 551 lbs

REQUIRED SIDEWALL STUD TIE DOWN LOADING:

2nd FLOOR STUD TO TOP PLATE / CEILING BAND:	$P_{2tp} = w_{up} * SOC =$	$275 * 24 / 12 =$	551 lbs
2nd FLOOR STUD TO FLOOR BAND:	$P_{2fb} = P_{2tp} - 0.6 * WDL * H_2 * SOC =$ $P_{2fb} = 551 \text{ lbs} - 0.6 * 12 \text{ psf} * 8.5 \text{ ft} * 24 \text{ in} / 12 =$		429 lbs
2nd FLOOR BAND TO 1st CEILING BAND:	$P_{2tc} =$	$P_{2fb} =$	429 lbs
1st FLOOR STUD TO CEILING BAND:	$P_{1cb} = P_{2fb} - 0.6 * FDL * W_2 / 4 * SOC =$ $P_{1cb} = 429 \text{ lbs} - 0.6 * 10 \text{ psf} * 48.08 \text{ ft} / 4 * 24 \text{ in} / 12 =$	$P_{1cb} =$	342 lbs
1st FLOOR STUD TO FLOOR BAND:	$P_{1fb} = P_{1cb} - 0.6 * WDL * H_1 * SOC =$ $P_{1fb} = 342 \text{ lbs} - 0.6 * 12 \text{ psf} * 9 \text{ ft} * 24 \text{ in} / 12 =$		213 lbs
CHECK FASTENERS:	8d NAIL	Z =	127.2 lbs
		$551 \text{ lbs} / 127.2 \text{ lbs} / \text{FASTENER} =$	4.33 FASTENERS
			USE (5) 8d NAIL(S) EACH END
	16 ga. STAPLE	Z =	48.6 lbs
		$551 \text{ lbs} / 48.6 \text{ lbs} / \text{FASTENER} =$	11.34 FASTENERS
			USE (12) 16 ga. STAPLE(S) EACH END

USE A 1.5" x 22 ga. STRAP EACH STUD WITH (5) 8d NAIL(S) EACH END
 OR WITH (12) 16 ga. STAPLE(S) EACH END
 OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 551 lbs

SIDEWALL 1st FLOOR BAND TO SILL PLATE CONNECTION:

SIDEWALL UPLIFT AT SILL PLATE:

$$w_{up} = P_{fb} / SOC - 0.6 * FDL * W_i / 4 =$$
$$w_{up} = 213 \text{ lbs} * 12 / 24 \text{ in} - 0.6 * 10 \text{ psf} * 48.08 \text{ ft} / 4 =$$
$$w_{up} = 35 \text{ plf}$$

CHECK STRAP AT ANCHOR BOLT LOCATIONS:

$$1/2" \text{ ANCHOR BOLT SPACING (BOC)} =$$

$$54 \text{ in}$$

$$P_{up} =$$

$$w_{up} * BOC = 35 \text{ plf} * 54 =$$

$$158 \text{ lbs}$$

CHECK FASTENERS:

8d NAIL

Z =

$$76.7 \text{ lbs}$$

$$158 \text{ lbs} / 76.7 \text{ lbs} / \text{FASTENER} =$$

$$2.05 \text{ FASTENERS}$$

USE (3) 8d NAIL(S) EACH END

16 ga. STAPLE

Z =

$$49.9 \text{ lbs}$$

$$158 \text{ lbs} / 49.9 \text{ lbs} / \text{FASTENER} =$$

$$3.16 \text{ FASTENERS}$$

USE (4) 16 ga. STAPLE(S) EACH END

USE A 1.5" x 26 ga. STRAP WITH (3) 8d NAIL(S) EACH END
OR WITH (4) 16 ga. STAPLE(S) EACH END
WRAPPED AROUND THE SILL PLATE AT EACH ANCHOR BOLT LOCATION
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 158 lbs

CHECK BENDING IN RIMBAND:

DBL. 2x10 SPF #2 RIMBAND DESIGN VALUES:

$$\text{SECTION MODULUS (S)} =$$

$$42.78 \text{ in}^3$$

$$\text{ALLOWABLE BENDING (fb)} =$$

$$875 \text{ psi}$$

$$M_{MAX} =$$

$$w_{up} * BOC^2 =$$

$$8$$

$$M_{MAX} = 35 \text{ plf} * (54 / 12)^2 =$$

$$8$$

$$1063 \text{ in-lbs}$$

$$\text{APPLIED fb} =$$

$$8$$

$$M_{MAX} = \frac{1063 \text{ in-lbs}}{42.78 \text{ in}^3} =$$

$$25 \text{ psi}$$

$$\text{ALLOWABLE BENDING (fb)} = 875 \text{ psi}$$

$$>$$

$$\text{APPLIED fb} = 25 \text{ psi}$$

DBL. 2x10 SPF #2 RIMBAND IS OK

LATERAL LOAD AT ROOF/CEILING DIAPHRAGM

$$\text{ROOF SPAN} =$$

$$29.17 \text{ ft}$$

$$\text{ROOF PITCH} =$$

$$9 / 12$$

WIND PERPENDICULAR TO RIDGE:

$$\text{PER TABLE 2.5A, 2001 WFCM AT } 29.17' \text{ (wl-per)} = 144 \text{ plf}$$

$$\text{wl-per} = \text{wl-per} * \text{CMRH} * \text{CWH} =$$

$$204 \text{ plf}$$

$$\text{wl-per} = 144 \text{ plf} * 1.33 * 1.063 =$$

WIND PARALLEL TO RIDGE:

PERP-TO-RIDGE LOADING USED FOR BOTH ORTHOGONAL DIRECTIONS:

$$204 \text{ plf}$$

LATERAL LOAD AT FLOOR DIAPHRAGM

WIND PERPENDICULAR TO RIDGE:

$$\text{PER TABLE 2.5A, 2001 WFCM FLI-per} = 123 \text{ plf}$$

$$\text{FLI-per} = \text{FLI-per} * \text{CMRH} * \text{CWH} =$$

$$\text{FLI-per} = 123 \text{ plf} * 1.33 * 1.125 =$$

$$185 \text{ plf}$$

WIND PARALLEL TO RIDGE:

$$\text{PER TABLE 2.5B, 2001 WFCM FLI-para} = 84 \text{ plf}$$

$$\text{FLI-para} = \text{FLI-para} * \text{CMRH} * \text{CWH} =$$

$$\text{FLI-para} = 84 \text{ plf} * 1.33 * 1.125 =$$

$$126 \text{ plf}$$

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LATERAL FRAMING CONNECTION LOADS FROM WIND:
(FOR ROOF-TO-PLATE, PLATE-TO-PLATE, PLATE-TO-STUD, AND PLATE-TO-FLOOR)

$$\begin{aligned} \text{PER TABLE 2.1, 2001 WFCM } w_{\text{wall}} &= 82 \text{ plf} \\ w_{\text{wall}} &= W_{\text{wall}} * \text{CMRH} = \\ w_{\text{wall}} &= 82 \text{ plf} * 1.33 = \end{aligned}$$

108 plf

$$\begin{aligned} \text{TRUSS MULTIPLIER} &= \\ \text{STUD MULTIPLIER} &= \end{aligned}$$

2
2**TRUSS TO TOP PLATE CONNECTION:**

$$P_C = w_{\text{wall}} * M_{24} = 108 \text{ plf} * 2 = 217 \text{ lbs}$$

TRUSS CONNECTION: SIMPSON H10

$$F_2 = 235 \text{ lbs}$$

$$\begin{aligned} P_C &= P - F_2 = \\ P_C &= 217 \text{ lbs} - 235 \text{ lbs} = \\ P_C &= \end{aligned}$$

-18 lbs

$$\# \text{ OF } 0.131" \times 2.5" \text{ COMMON NAIL (TOENAILED) REQUIRED} =$$

Z

$$P_C = \frac{-18 \text{ lbs}}{83 \text{ lbs}}$$

0 NAILS

USE (0) 0.131" x 2.5" COMMON NAIL (TOENAILED) PER TRUSS

IF (5) 0.131" x 3.25" ENDNAILS (TRUSS TO BAND) & (2) #4 x 4.5" TOE-SCREWS (TRUSS TO PLATE) TRUSS CONNECTION IS USED, ABOVE CONNECTION MAY BE OMITTED

PLATE TO PLATE CONNECTION:

$$\text{SPACING OF } 0.131" \times 2.5" \text{ COMMON NAIL (FACE NAILED)} =$$

 w_{wall}

$$Z * 12 = \frac{100 \text{ lbs} * 12}{108 \text{ plf}}$$

11 in O.C.
(16" max)

ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 11" ON CENTER

PLATE TO STUD CONNECTION:

$$P_C = w_{\text{wall}} * M_{18} = 108 \text{ plf} * 2 = 217 \text{ lbs}$$

$$\# \text{ OF } 0.162" \times 3.5" \text{ COMMON NAIL (ENDNAILED) REQUIRED} =$$

Z

$$P_C = \frac{217 \text{ lbs}}{128 \text{ lbs}}$$

2 NAILS

USE (2) 0.162" x 3.5" COMMON NAIL (ENDNAILED) PER STUD**BOTTOM PLATE TO FLOOR CONNECTION:**

$$\text{SPACING OF } 0.131" \times 2.5" \text{ COMMON NAIL (FACE NAILED)} =$$

 w_{wall}

$$Z * 12 = \frac{100 \text{ lbs} * 12}{108 \text{ plf}}$$

11 in O.C.
(16" max)

ATTACH WITH 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 11" ON CENTER

TOP PLATE SPLICE LENGTH

$$\begin{aligned} \text{STRUCTURE WIDTH (W)} &= 48.08 \text{ ft} \\ \text{STRUCTURE LENGTH (L)} &= 42.67 \text{ ft} \\ 0.162" \times 3.5" \text{ COMMON NAIL (FACE NAILED)} & \\ \text{ROOF DIAPHRAGM LOADING (w-per)} &= 204 \text{ plf} \\ \text{FLOOR DIAPHRAGM LOADING (FL-per)} &= 155 \text{ plf} \end{aligned}$$

191 lbs

ROOF DIAPHRAGM LOADING CONTROLS**CONTROLLING LOADING:**

204 plf

$$\text{DIAPHRAGM CHORD FORCE} =$$

$$T = \frac{w_{\text{per}} * L^2}{8 * W}$$

$$\frac{204 \text{ plf} * 42.67 \text{ ft}^2}{8 * 48.08 \text{ ft}}$$

966 lbs

$$\text{REQUIRED SPLICE LENGTH (w/ (2) 16d 3" o.c.): } T * 3" / 12" / \text{ft} = \frac{966 \text{ lbs} * 3" / 12" / \text{ft}}{2 * 191 \text{ lbs / NAIL}}$$

1 ft

$$\text{REQUIRED SPLICE LENGTH (w/ (2) 16d 12" o.c.): } T * 12" / 12" / \text{ft} = \frac{966 \text{ lbs} * 12" / 12" / \text{ft}}{2 * 191 \text{ lbs / NAIL}}$$

3 ft

TOP PLATE SPLICES SHALL BE A MINIMUM OF 1 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAILED)) 3" o.c.
OR A MINIMUM OF 3 ft w/ (2) ROWS 16d (0.162" x 3.5" COMMON NAIL (FACE NAILED)) 12" o.c.

ROOF DIAPHRAGM SHEATHING REQUIREMENTS

$$\begin{aligned} \text{ROOF SPAN (RS)} &= 29.17 \text{ ft} \\ \text{ROOF LENGTH (RL)} &= 42.67 \text{ ft} \\ \text{ROOF PITCH} &= 9 / 12 \\ \text{ROOF ANGLE (RA)} &= 36.9^\circ \\ w_{per} &= 204 \text{ plf} \\ \text{STANDARD ROOF SHEATHING} &= 7/16" \text{ OSB (UN-BLOCKED) w/ 8d NAILING @ 6"/12" } \\ \text{ROOF SHEATHING SHEAR CAPACITY (v_r)} &= 296 \text{ plf} \\ \text{STANDARD CEILING SHEATHING} &= 1/2" \text{ GWS (UN-BLOCKED) w/ FASTENERS @ 7"/7" } \\ \text{CEILING SHEATHING SHEAR CAPACITY (v_c)} &= 70 \text{ plf} \\ \text{MAX DIAPHRAGM SHEAR (v)} &= \frac{L \cdot w_{per}}{RS} = \frac{42.67 \text{ ft} \cdot 204 \text{ plf}}{29.17 \text{ ft}} = 150 \text{ plf} \\ \text{NET DIAPHRAGM SHEAR CAPACITY (v_n)} &= v_r + v_c = 296 \text{ plf} + 70 \text{ plf} = 366 \text{ plf} \\ \text{DIAPHRAGM SHEAR CAPACITY REQUIRED} &= 150 \text{ plf} < \text{STANDARD ROOF/CEILING DIAPHRAGM CAPACITY} = 366 \text{ plf} \\ \text{STANDARD ROOF/CEILING DIAPHRAGM OK} \end{aligned}$$

FLOOR DIAPHRAGM SHEATHING REQUIREMENTS

$$\begin{aligned} \text{BUILDING WIDTH (W)} &= 48.08 \text{ ft} \\ \text{BUILDING LENGTH (L)} &= 42.67 \text{ ft} \\ FL_{per} &= 185 \text{ plf} \\ \text{STANDARD FLOOR SHEATHING} &= 19/32" \text{ MIN. OSB (UN-BLOCKED) w/ 8d NAILING @ 6"/12" } \\ \text{FLOOR DIAPHRAGM SHEAR CAPACITY (v_f)} &= 309 \text{ plf} \\ \text{MAX FLOOR DIAPHRAGM SHEAR (v)} &= \frac{L \cdot FL_{per}}{W} = \frac{42.67 \text{ ft} \cdot 185 \text{ plf}}{48.08 \text{ ft}} = 83 \text{ plf} \\ \text{DIAPHRAGM SHEAR CAPACITY REQUIRED} &= 83 \text{ plf} < \text{STANDARD ROOF/CEILING DIAPHRAGM CAPACITY} = 309 \text{ plf} \\ \text{STANDARD FLOOR DIAPHRAGM OK} \end{aligned}$$

SHEATHING SUCTION CONNECTION (PER 2001 WFCM, TABLE 2.4, pp. 69)

$$\begin{aligned} \text{TRUSS SPACING (TOC)} &= 24 \text{ in O.C.} \\ \text{STUD SPACING (SOC)} &= 24 \text{ in O.C.} \\ 0.131" \times 2.5" \text{ COMMON NAIL (FACE NAILED)} &= 69 \text{ lbs (7/16" SIDE MEMBER; WITHDRAWAL)} \\ Z &= 5 \text{ ft} \\ \text{MEAN ROOF HEIGHT ADJUSTMENT FACTOR (CMRH)} &= 1.330 \\ \text{FOR ROOF ZONE 1 (FIELD):} & \\ p' &= 15 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 15 \text{ psf} \cdot 1.33 \\ p &= 19.95 \text{ psf} \\ \text{TRUSS LOADING} &= 19.95 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} = 40 \text{ plf} \\ \frac{40 \text{ plf}}{69 \text{ lbs / FASTENER}} &= 0.6 \text{ FASTENERS / ft} = 20 \text{ in O.C.} \\ \text{MAX ALLOWABLE SPACING:} &= 12 \text{ in O.C.} \\ \text{USE } 0.131" \times 2.5" \text{ COMMON NAIL (FACE NAILED) AT 12 in o.c.} \end{aligned}$$

FOR ROOF ZONE 2 (EDGE):

$$\begin{aligned} p' &= 28.9 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 28.9 \text{ psf} \cdot 1.33 \\ p &= 38.44 \text{ psf} \end{aligned}$$

$$\text{TRUSS LOADING} = 38.44 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} =$$

$$77 \text{ plf}$$

$$\frac{77 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$1.2 \text{ FASTENERS / ft} =$$

$$10 \text{ in O.C.}$$

$$\text{MAX ALLOWABLE SPACING: } 12 \text{ in O.C.}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 10 in o.c.

FOR ROOF ZONE 3 (CORNER):

$$\begin{aligned} p' &= 37.8 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 37.8 \text{ psf} \cdot 1.33 \\ p &= 50.28 \text{ psf} \end{aligned}$$

$$\text{TRUSS LOADING} = 50.28 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} =$$

$$101 \text{ plf}$$

$$\frac{101 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$1.5 \text{ FASTENERS / ft} =$$

$$8 \text{ in O.C.}$$

$$\text{MAX ALLOWABLE SPACING: } 12 \text{ in O.C.}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 8 in o.c.

FOR ROOF ZONE 3OH (CORNER OVERHANG):

$$\begin{aligned} p' &= 47 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 47 \text{ psf} \cdot 1.33 \\ p &= 62.51 \text{ psf} \end{aligned}$$

$$\text{TRUSS LOADING} = 62.51 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} =$$

$$125 \text{ plf}$$

$$\frac{125 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$1.8 \text{ FASTENERS / ft} =$$

$$6 \text{ in O.C.}$$

$$\text{MAX ALLOWABLE SPACING: } 12 \text{ in O.C.}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.

FOR WALL ZONE 4 (FIELD):

$$\begin{aligned} p' &= 16.2 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 16.2 \text{ psf} \cdot 1.33 \\ p &= 21.55 \text{ psf} \end{aligned}$$

$$\text{STUD LOADING} = 21.55 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} =$$

$$43 \text{ plf}$$

$$\frac{43 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$0.7 \text{ FASTENERS / ft} =$$

$$17 \text{ in O.C.}$$

$$\text{MAX ALLOWABLE SPACING: } 6 \text{ in O.C.}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.

FOR WALL ZONE 5 (EDGE):

$$\begin{aligned} p' &= 20.1 \text{ psf} \\ p &= p' \cdot \text{CMRH} \\ p &= 20.1 \text{ psf} \cdot 1.33 \\ p &= 26.74 \text{ psf} \end{aligned}$$

$$\text{STUD LOADING} = 26.74 \text{ psf} \times 24" \text{ o.c.} / 12" / \text{ft} =$$

$$53 \text{ plf}$$

$$\frac{53 \text{ plf}}{69 \text{ lbs / FASTENER}} =$$

$$0.8 \text{ FASTENERS / ft} =$$

$$15 \text{ in O.C.}$$

$$\text{MAX ALLOWABLE SPACING: } 8 \text{ in O.C.}$$

USE 0.131" x 2.5" COMMON NAIL (FACE NAILED) AT 6 in o.c.

SECOND FLOOR ENDWALL #1 SHEATHING LENGTH REQUIREMENTS
BEDROOMS #3 & #4

FIRST FLOOR LENGTH (W_1) =	48.08 ft
SECOND FLOOR LENGTH (W_2) =	48.08 ft
FIRST FLOOR LENGTH (L_1) =	42.67 ft
SECOND FLOOR LENGTH (L_2) =	42.67 ft
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR	
SHEATHING EDGE 8d NAIL SPACING =	6 in O.C. (8d NAILS OR EQUIVALENT)
SHEARWALL STRENGTH (V) =	384 plf
MIN. SHEARWALL SEGMENT LENGTH =	2.4 ft
FULL HEIGHT SHEATHING PROVIDED (L_{SH}) =	19.17 ft
2nd FL. PERCENT FULL HEIGHT SHEATHING =	68 %
2nd FL. MAX. UNRESTRAINED OPENING HEIGHT =	6.19 ft
SHEAR ADJUSTMENT FACTOR (C_d) =	0.715 (TABLE 2305.3.7.2, IBC)
2nd FL. NUMBER OF SHEARWALLS (N_{end}) =	2
ADDITIONAL WALL LOAD =	0 lbs
SHEARWALL REACTION (R_{end}) = $L_2 * W_{pgf} / N_{end} + \text{ADDITIONAL}$	
$R_{end} = 42.67 \text{ ft} * 204 \text{ plf} / 2 + 0 \text{ lbs} =$	
	4353 lbs
MIN. LENGTH SEGMENTED SHEARWALLS (L_{SW}) = $R_{end} / V =$	4353 lbs / 384 plf =
	11.34 ft

PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (ENDWALL) = $L_{SW} / C_d = 11.34 \text{ ft} / 0.715 =$ 15.86 ft

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 15.86 ft

PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 19.17 ft

ENDWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

SECOND FLOOR HORIZONTAL FLOOR DIAPHRAGM CONTINUITY:

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND: (ALONG MATE LINE)

(DEEP BEAM HORIZONTAL SHEAR)

$$V_1 = \frac{(3 * F_{pgf} / 4) * L_1}{2} = \frac{3/4 * 185 \text{ plf} * 42.67 \text{ ft}}{2} = 2961 \text{ lbs}$$

$$\# 1/2" \text{ DIA. THRU BOLT} = \frac{V_1}{Z_{1/2 \text{ BOLT}}} = \frac{2961 \text{ lbs}}{623 \text{ lbs}} = 5 \text{ BOLTS}$$

USE A MIN. OF (5) 1/2" DIA. THRU BOLTS
TO ATTACH MODULE TO MODULE ALONG MATE LINE

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND: (AT ENDWALLS)

(CHORD FORCE CONTINUITY)

$$T = \frac{F_{pgf} * W_2^2}{8 * L_2} = \frac{125 \text{ plf} * 48.08 \text{ ft}^2}{8 * 42.67 \text{ ft}} = 854 \text{ lbs}$$

CHECK FASTENERS:	8d NAIL	Z =	127.3 lbs	854 lbs / 127.3 lbs / FASTENER =	6.71 FASTENERS
					USE (7) 8d NAIL(S) EACH END
	16 ga. STAPLE	Z =	48.3 lbs	854 lbs / 48.3 lbs / FASTENER =	17.68 FASTENERS
					USE (18) 16 ga. STAPLE(S) EACH END

USE A 1.5" x 20 ga. STRAP WITH (7) 8d NAIL(S) EACH END
OR WITH (18) 16 ga. STAPLE(S) EACH END
TO ATTACH MODULE TO MODULE AT EACH ENDWALL
OR CONNECTION TO WITHSTAND A TENSILE FORCE OF 854 lbs

SECOND FLOOR ENDWALL #1: UPLIFT DUE TO OVERTURNING

FULL HEIGHT SHEATHING PROVIDED (ΣL_1) =	19.17 ft
SHEARWALL ADJUSTMENT FACTOR (C_o) =	0.715
SHEARWALL REACTION (R_{end1}) =	4353 lbs
WALL HEIGHT (H) =	8.5 ft

$$\text{UPLIFT FORCE (} U_{E2} \text{)} = \frac{R_{end1} \times H}{\Sigma L_1 \times C_o} =$$

$$U_{E2} = \frac{4353 \text{ lbs} \times 8.5 \text{ ft}}{19.17 \text{ ft} \times 0.715} = 2700 \text{ lbs}$$

SEE PAGE 23 FOR CONNECTION DESIGN

SECOND FLOOR ENDWALL #2 SHEATHING LENGTH REQUIREMENTS
BEDROOMS #1 & #2

FIRST FLOOR WIDTH (W_1) =	48.08 ft
SECOND FLOOR WIDTH (W_2) =	48.08 ft
FIRST FLOOR LENGTH (L_1) =	42.67 ft
SECOND FLOOR LENGTH (L_2) =	42.67 ft
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWS INTERIOR	
SHEATHING EDGE 8d NAIL SPACING =	6 in O.C. (8d NAILS OR EQUIVALENT)
SHEARWALL STRENGTH (V) =	384 plf
MIN. SHEARWALL SEGMENT LENGTH =	2.4 ft
FULL HEIGHT SHEATHING PROVIDED (ΣL_1) =	32.76 ft
2nd FL. PERCENT FULL HEIGHT SHEATHING =	68 %
2nd FL. MAX. UNRESTRAINED OPENING HEIGHT =	6.19 ft
SHEAR ADJUSTMENT FACTOR (C_o) =	0.729 (TABLE 2305.3.7.2, IBC)
2nd FL. NUMBER OF SHEARWALLS (N_{end}) =	2
ADDITIONAL WALL LOAD =	0 lbs

$$\text{SHEARWALL REACTION (} R_{end2} \text{)} = L_2 \times W_{per} / N_{end} + \text{ADDITIONAL} =$$

$$R_{end2} = 42.67 \text{ ft} \times 204 \text{ plf} / 2 + 0 \text{ lbs} = 4353 \text{ lbs}$$

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS (} L_{seg} \text{)} = R_{end2} / V = 4353 \text{ lbs} / 384 \text{ lbs} = 11.34 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (ENDWALL)} = L_{seg} / C_o = 11.34 \text{ ft} / 0.729 = 15.55 \text{ ft}$$

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 15.55 ftPERFORATED FULL HEIGHT SHEATHING
PROVIDED = 32.76 ftENDWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

SECOND FLOOR ENDWALL #2: UPLIFT DUE TO OVERTURNING

FULL HEIGHT SHEATHING PROVIDED (ΣL_1) =	32.76 ft
SHEARWALL ADJUSTMENT FACTOR (C_o) =	0.729
SHEARWALL REACTION (R_{end2}) =	4353 lbs
WALL HEIGHT (H) =	8.5 ft

$$\text{UPLIFT FORCE (} U_{E2} \text{)} = \frac{R_{end2} \times H}{\Sigma L_1 \times C_o} =$$

$$U_{E2} = \frac{4353 \text{ lbs} \times 8.5 \text{ ft}}{32.76 \text{ ft} \times 0.729} = 1550 \text{ lbs}$$

SEE PAGE 23 FOR CONNECTION DESIGN

SECOND FLOOR ENDWALL: SHEAR CONNECTIONS

EFFECTIVE SECOND FLOOR WIDTH (W_2) =	29.17 ft
SECOND FLOOR LENGTH (L_2) =	42.67 ft
FL_{1-per} =	165 plf
1/2" ANCHOR BOLT	Z = 1056 lbs
5/8" ANCHOR BOLT	Z = 1488 lbs
0.162" x 3.5" COMMON NAIL (TO NAILED)	Z = 159 lbs
0.162" x 3.5" COMMON NAIL (FACE NAILED)	Z = 191 lbs
(1) SIMPSON LTP4 PLATE	Z = 575 lbs

$$\text{MAXIMUM SECOND FLOOR ENDWALL SHEAR LOAD} = 4353 \text{ lbs}$$

TRUSS BOTTOM CHORD TO TOP PLATE CONNECTION:

$$\begin{aligned} \# \text{TOENAILS PER FOOT} &= V/Z/W = 4353 \text{ lbs} / 158 \text{ lbs} / 29.17 \text{ ft} = 0.9 \text{ NAILS / ft} \\ \text{TOENAIL SPACING} &= 12 / \# = 12 / 0.9 = 12" \text{ O.C. (16" MAX)} \\ \# \text{LTP4 PLATES PER FOOT} &= V/Z/W = 4353 \text{ lbs} / 575 \text{ lbs} / 29.17 \text{ ft} = 0.3 \text{ PLATES / ft} \\ \text{LTP4 PLATE SPACING} &= 12 / \# = 12 / 0.3 = 48" \text{ O.C. (72" MAX)} \end{aligned}$$

USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 12" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 48" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 4353 lbs

RIMBANDS TO BOTTOM / BEARING / TOP PLATE CONNECTION:

$$\begin{aligned} V &= \text{MAX ENDWALL SHEAR} + L_2 \times F_{LH} / 2 = 8300 \text{ lbs} \\ V &= 4353 \text{ lbs} + 42.67 \text{ ft} \times 185 \text{ plf} / 2 = 8300 \text{ lbs} \\ \# \text{TOENAILS PER FOOT} &= V/Z/W = 8300 \text{ lbs} / 158 \text{ lbs} / 29.17 \text{ ft} = 1.8 \text{ NAILS / ft} \\ \text{TOENAIL SPACING} &= 12 / \# = 12 / 1.8 = 6" \text{ O.C. (16" MAX)} \\ \# \text{LTP4 PLATES PER FOOT} &= V/Z/W = 8300 \text{ lbs} / 575 \text{ lbs} / 29.17 \text{ ft} = 0.5 \text{ PLATES / ft} \\ \text{LTP4 PLATE SPACING} &= 12 / \# = 12 / 0.5 = 24" \text{ O.C. (72" MAX)} \end{aligned}$$

USE 0.162" x 3.5" COMMON NAIL (TOENAILED) AT 6" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 24" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 8300 lbs

BEARING PLATE TO CEILING BAND CONNECTION:

$$\begin{aligned} \# \text{FACENAILS PER FOOT} &= V/Z/W = 8300 \text{ lbs} / 191 \text{ lbs} / 29.17 \text{ ft} = 1.5 \text{ NAILS / ft} \\ \# \text{FACENAILS PER FOOT} &= 1.5 \text{ NAILS / ft} \\ \text{FACENAIL SPACING} &= 12 / \# = 12 / 1.5 = 8" \text{ O.C.} \end{aligned}$$

USE 0.162" x 3.5" COMMON NAIL (FACE NAILED) @ 8" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 24" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 8300 lbs

CHECK SHEATHING TO RIMBAND CONNECTION:

UNIT SHEAR CHECK:

$$\begin{aligned} \text{SHEAR FORCE (V)} &= \frac{R_{end2}}{\sum L_i \times C_o} = \\ \text{SECOND FLOOR ENDWALL \#1: } V &= \frac{4353 \text{ lbs}}{19.17 \text{ ft} \times 0.715} = 318 \text{ plf} \\ \text{SECOND FLOOR ENDWALL \#2: } V &= \frac{4353 \text{ lbs}}{32.76 \text{ ft} \times 0.729} = 183 \text{ plf} \\ \text{MAXIMUM SECOND FLOOR ENDWALL UNIT SHEAR} &= 318 \text{ plf} \end{aligned}$$

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

$$\begin{aligned} \text{8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER} \quad Z &= 95 \text{ lbs} \\ \# \text{ OF 8d NAILS PER FOOT} &= \frac{V}{Z} = \frac{318 \text{ plf}}{95 \text{ lbs / NAIL}} = 3.35 \text{ NAILS PER FOOT} \\ \# \text{ OF 8d NAILS PER FOOT} &= 3.35 \text{ NAILS PER FOOT} \\ \text{OVERALL 8d NAIL SPACING} &= 12 / \# = 12 / 3.35 = 3.58" \text{ O.C.} \\ \# \text{ OF ROWS: } &= 1 \text{ ROW(S)} \\ \text{8d NAIL SPACING WITHIN EACH ROW} &= 1" \text{ SPACING } 1" \times 3.58 \text{ o.c. } 3" \text{ O.C.} \end{aligned}$$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 318 plf

UNIT UPLIFT CHECK: (EQUAL TO UNIT SHEAR)

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER $Z = 85 \text{ lbs}$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{318 \text{ plf}}{85 \text{ lbs / NAIL}}$$

OF 8d NAILS PER FOOT = 3.35 NAILS PER FOOT

OVERALL 8d NAIL SPACING = $12 / \# = 12 / 3.35 = 3.58" \text{ O.C.}$

OF ROWS: 1 ROW(S)

8d NAIL SPACING WITHIN EACH ROW = $1" \text{ SPACING } 1" \times 3.58 \text{ o.c. } 3" \text{ O.C.}$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 318 plf

ALTERNATE SHEATHING CONNECTION FOR UNIT UPLIFT (GLUE):

200 psi MINIMUM CONSTRUCTION ADHESIVE $V = 318 \text{ plf}$

$Z = 200 \text{ psi (FACE)}$

WIDTH OF GLUE REQUIRED FOR SHEATHING CONNECTION ALONG FLOOR BAND:

$$\text{WIDTH OF GLUE STRIP REQUIRED} = \frac{V}{Z} = \frac{318 \text{ plf}}{200 \text{ psi} \times 12" / \text{ft}} = 1"$$

FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

FIRST FLOOR ENDWALL #1 SHEATHING LENGTH REQUIREMENTS
LIBRARY / LIVING

FIRST FLOOR WIDTH (W_1) = 48.08 ft

SECOND FLOOR WIDTH (W_2) = 48.08 ft

FIRST FLOOR LENGTH (L_1) = 42.67 ft

SECOND FLOOR LENGTH (L_2) = 42.67 ft

SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR

SHEATHING EDGE 8d NAIL SPACING = 3 in O.C. (8d NAILS OR EQUIVALENT)

SHEARWALL STRENGTH (V) = 654 plf

MIN. SHEARWALL SEGMENT LENGTH = 2.6 ft

SUM OF FULL HEIGHT SHEATHING PROVIDED (ΣL_i) = 19.17 ft

1st FL. PERCENT FULL HEIGHT SHEATHING = 86 %

1st FL. MAX. UNRESTRAINED OPENING HEIGHT = 6.52 ft

SHEAR ADJUSTMENT FACTOR (C_s) = 0.717 (TABLE 2305.3.7.2, IBC)

1st FL. NUMBER OF SHEARWALLS (N_{end}) = 2

ADDITIONAL WALL LOAD = 0 lbs

SHEARWALL REACTION (R_{end1}) = $L_1 \times FL_{per} / N_{end} + R_{end2} + \text{ADDITIONAL}$

$R_{end1} = 42.67 \text{ ft} \times 185 \text{ plf} / 2 + 4353 \text{ lbs} + 0 \text{ lbs} = 8300 \text{ lbs}$

MIN. LENGTH SEGMENTED SHEARWALLS (L_{sw}) = $R_{end1} / V = 8300 \text{ lbs} / 654 \text{ plf} = 12.69 \text{ ft}$

PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (ENDWALL) = $L_{sw} / C_s = 12.69 \text{ ft} / 0.717 = 17.71 \text{ ft}$

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 17.71 ft

<

PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 19.17 ft

ENDWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR HORIZONTAL FLOOR DIAPHRAGM CONTINUITY:

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND: (ALONG MATE LINE)

(DEEP BEAM HORIZONTAL SHEAR)

$$V_f = \frac{(3 * F_{per} / 4) * L_1}{2} = \frac{3 / 4 * 185 \text{ plf} * 42.67 \text{ ft}}{2} = 2961 \text{ lbs}$$

$$\# \text{ 1/2" DIA. THRU BOLT} = \frac{V_f}{Z_{1/2 \text{ BOLT}}} = \frac{2961 \text{ lbs}}{623 \text{ lbs}} = 5 \text{ BOLTS}$$

USE A MIN. OF (5) 1/2" DIA. THRU BOLTS
TO ATTACH MODULE TO MODULE ALONG MATE LINE

MODULE TO MODULE CONNECTION AT FLOOR RIMBAND: (AT ENDWALLS)

(CHORD FORCE CONTINUITY)

$$T = \frac{3/4 * F_{per} * W_s^2}{8 * L_1} = \frac{3/4 * 126 \text{ plf} * 48.08 \text{ ft}^2}{8 * 42.67 \text{ ft}} = 640 \text{ lbs}$$

CHECK FASTENERS:	8d NAIL	Z =	127.2 lbs	5.03 FASTENERS
			640 lbs / 127.2 lbs / FASTENER =	USE (6) 8d NAIL(S) EACH END
	16 ga. STAPLE	Z =	48.6 lbs	13.17 FASTENERS
			640 lbs / 48.6 lbs / FASTENER =	USE (14) 16 ga. STAPLE(S) EACH END

USE A 1.5" x 22 ga. STRAP WITH (6) 8d NAIL(S) EACH END
OR WITH (14) 16 ga. STAPLE(S) EACH END
TO ATTACH MODULE TO MODULE AT EACH ENDWALL
OR CONNECTION TO WITHSTAND A TENSILE FORCE OF 640 lbs

FIRST FLOOR ENDWALL #1: UPLIFT DUE TO OVERTURNING

SUM OF FULL HEIGHT SHEATHING PROVIDED ($\sum L_1$) =	19.17 ft
SHEARWALL ADJUSTMENT FACTOR (C_o) =	0.717
SHEARWALL REACTION (R_{end1}) =	8300 lbs
WALL HEIGHT (H) =	9 ft

$$\text{UPLIFT FORCE } (U_{G1}) = \frac{R_{end1} * H}{\sum L_1 * C_o} + U_{G2} =$$

$$U_{G1} = \frac{8300 \text{ lbs} * 9 \text{ ft} + 2700 \text{ lbs}}{19.17 * 0.717} = 8135 \text{ lbs}$$

SEE PAGE 23 FOR CONNECTION DESIGN

FIRST FLOOR ENDWALL #2 SHEATHING LENGTH REQUIREMENTS
FAMILY / DINING

FIRST FLOOR WIDTH (W_1) =	48.08 ft
SECOND FLOOR WIDTH (W_2) =	48.08 ft
FIRST FLOOR LENGTH (L_1) =	42.67 ft
SECOND FLOOR LENGTH (L_2) =	42.67 ft
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR, DOUBLE STUDS	
SHEATHING EDGE 8d NAIL SPACING =	2 in O.C. (8d NAILS OR EQUIVALENT)
SHEARWALL STRENGTH (V) =	828 plf
MIN. SHEARWALL SEGMENT LENGTH =	2.6 ft
SUM OF FULL HEIGHT SHEATHING PROVIDED ($\sum L_1$) =	25.25 ft
1st FL. PERCENT FULL HEIGHT SHEATHING =	60 %
1st FL. MAX. UNRESTRAINED OPENING HEIGHT =	9 ft
SHEAR ADJUSTMENT FACTOR (C_o) =	0.559 (TABLE 2305.3.7.2, IBC)
1st FL. NUMBER OF SHEARWALLS (N_{end}) =	2
ADDITIONAL WALL LOAD FROM DEN =	0 lbs

$$\text{SHEARWALL REACTION } (R_{end1}) = L_1 * F_{per} / N_{end} + R_{end2} + \text{ADDITIONAL} =$$

$$R_{end1} = 42.67 \text{ ft} * 185 \text{ plf} / 2 + 4353 \text{ lbs} + 0 \text{ lbs} = 8300 \text{ lbs}$$

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS } (L_{seg}) = R_{end1} / V = 8300 \text{ lbs} / 828 \text{ plf} = 10.02 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (ENDWALL) } = L_{seg} / C_o = 10.02 \text{ ft} / 0.559 = 17.94 \text{ ft}$$

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 17.94 ft

PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 25.25 ft

ENDWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

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FIRST FLOOR ENDWALL #2: UPLIFT DUE TO OVERTURNING

$$\begin{aligned} \text{SUM OF FULL HEIGHT SHEATHING PROVIDED } (\Sigma L_1) &= 25.25 \text{ ft} \\ \text{SHEARWALL ADJUSTMENT FACTOR } (C_o) &= 0.559 \\ \text{SHEARWALL REACTION } (R_{\text{end}}) &= 8300 \text{ lbs} \\ \text{WALL HEIGHT } (H) &= 9 \text{ ft} \\ \text{UPLIFT FORCE } (U_{E1}) &= \frac{R_{\text{end}} \times H}{\Sigma L_1 \times C_o} + U_{E2} = \\ U_{E1} &= \frac{8300 \text{ lbs} \times 9 \text{ ft} + 1550 \text{ lbs}}{25.25 \times 0.559} = 6843 \text{ lbs} \end{aligned}$$

SEE PAGE 23 FOR CONNECTION DESIGN

FIRST FLOOR ENDWALL: SHEAR CONNECTIONS

$$\begin{aligned} \text{EFFECTIVE FIRST FLOOR WIDTH } (W_1) &= 26.25 \text{ ft} \\ \text{FIRST FLOOR LENGTH } (L_1) &= 42.67 \text{ ft} \\ F_{L1 \text{ per ft}} &= 185 \text{ plf} \\ 1/2" \text{ ANCHOR BOLT} &Z = 1056 \text{ lbs} \\ 5/8" \text{ ANCHOR BOLT} &Z = 1488 \text{ lbs} \\ 0.162" \times 3.5" \text{ COMMON NAIL (TOENAILED)} &Z = 158 \text{ lbs} \\ (1) \text{ SIMPSON LTP4 PLATE} &Z = 575 \text{ lbs} \end{aligned}$$

$$\text{MAXIMUM FIRST FLOOR ENDWALL SHEAR LOAD} = 8300 \text{ lbs}$$

RIMBAND TO SILL PLATE CONNECTION:

$$\begin{aligned} V &= \text{MAX ENDWALL SHEAR} + L_1 \times (3/4 \times F_{L1 \text{ per ft}}) / 2 + V_{\text{OEN}} = \\ V &= 8300 \text{ lbs} + 42.67 \text{ ft} \times (3/4 \times 185 \text{ plf}) / 2 + 0 \text{ lbs} = 11260 \text{ lbs} \end{aligned}$$

$$\# \text{ TOENAILS PER FOOT} = V / Z / W = 11260 \text{ lbs} / 158 \text{ lbs} / 26.25 \text{ ft} = 2.7 \text{ NAILS / ft}$$

$$\text{TOENAIL SPACING} = 12 / \# = 12 / 2.7 = 4" \text{ O.C. (16" MAX)}$$

$$\# \text{ LTP4 PLATES PER FOOT} = V / Z / W = 11260 \text{ lbs} / 575 \text{ lbs} / 26.25 \text{ ft} = 0.7 \text{ PLATES / ft}$$

$$\text{LTP4 PLATE SPACING} = 12 / \# = 12 / 0.7 = 16" \text{ O.C. (72" MAX)}$$

USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 4" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 16" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 11261 lbs

SILL PLATE TO FOUNDATION CONNECTION:

$$\# 1/2" \text{ ANCHOR BOLTS} = V / Z = 11260 \text{ lbs} / 1056 \text{ lbs} = 11 \text{ BOLTS}$$

$$\text{BOLT SPACING} = (W - 2) / (N - 1) = (26.25 \text{ ft} - 2) / (11 - 1) = 29 \text{ in}$$

USE 1/2" ANCHOR BOLTS @ 29" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 11261 lbs

$$\# 5/8" \text{ ANCHOR BOLTS} = V / Z = 11260 \text{ lbs} / 1488 \text{ lbs} = 8 \text{ BOLTS}$$

$$\text{BOLT SPACING} = (W - 2) / (N - 1) = (26.25 \text{ ft} - 2) / (8 - 1) = 41 \text{ in}$$

USE 5/8" ANCHOR BOLTS @ 41" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 11261 lbs

CHECK SHEATHING TO RIMBAND CONNECTION:

UNIT SHEAR CHECK:

$$\text{SHEAR FORCE } (V) = \frac{R_{\text{end}}}{\Sigma L_1 \times C_o} =$$

$$\text{FIRST FLOOR ENDWALL \#1: } V = \frac{8300 \text{ lbs}}{19.17 \text{ ft} \times 0.717} = 604 \text{ plf}$$

$$\text{FIRST FLOOR ENDWALL \#2: } V = \frac{8300 \text{ lbs}}{25.25 \times 0.559} = 589 \text{ plf}$$

$$\text{MAXIMUM FIRST FLOOR ENDWALL UNIT SHEAR} = 604 \text{ plf}$$

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CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER $Z = 95 \text{ lbs}$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{604 \text{ plf}}{95 \text{ lbs / NAIL}}$$

OF 8d NAILS PER FOOT = 6.36 NAILS PER FOOT

OVERALL 8d NAIL SPACING = $12 / \# = 12 / 6.36 = 1.88 \text{ " O.C.}$

OF ROWS: 2 ROW(S)

8d NAIL SPACING WITHIN EACH ROW = $2 \text{ " SPACING } 2 \times 1.88 \text{ o.c. } 3 \text{ " O.C.}$

USE SHEATHING CONNECTION WITH 2 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 604 plf

UNIT UPLIFT CHECK: (EQUAL TO UNIT SHEAR)

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER $Z = 95 \text{ lbs}$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{604 \text{ plf}}{95 \text{ lbs / NAIL}}$$

OF 8d NAILS PER FOOT = 6.36 NAILS PER FOOT

OVERALL 8d NAIL SPACING = $12 / \# = 12 / 6.36 = 1.88 \text{ " O.C.}$

OF ROWS: 2 ROW(S)

8d NAIL SPACING WITHIN EACH ROW = $2 \text{ " SPACING } 2 \times 1.88 \text{ o.c. } 3 \text{ " O.C.}$

USE SHEATHING CONNECTION WITH 2 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 604 plf

ALTERNATE SHEATHING CONNECTION FOR UNIT UPLIFT (GLUE):

$$200 \text{ psi MINIMUM CONSTRUCTION ADHESIVE } Z = 200 \text{ psi (FACE) } V = 604 \text{ plf}$$

WIDTH OF GLUE REQUIRED FOR SHEATHING CONNECTION ALONG FLOOR BAND:

$$\text{WIDTH OF GLUE STRIP REQUIRED} = \frac{V}{Z} = \frac{604 \text{ plf}}{200 \text{ psi} \times 12 \text{ " / ft}} = 1 \text{ "}$$

FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

SECOND FLOOR SIDEWALL #1 SHEATHING LENGTH REQUIREMENTS
BEDROOMS #1 & #4

FIRST FLOOR WIDTH (W_1) =	48.08 ft
SECOND FLOOR WIDTH (W_2) =	48.08 ft
FIRST FLOOR LENGTH (L_1) =	42.67 ft
SECOND FLOOR LENGTH (L_2) =	42.67 ft
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR	
SHEATHING EDGE 8d NAIL SPACING =	6 in O.C. (8d NAILS OR EQUIVALENT)
SHEARWALL STRENGTH (V) =	384 plf
MIN. SHEARWALL SEGMENT LENGTH =	2.4 ft
SUM OF FULL HEIGHT SHEATHING PROVIDED (ΣL_s) =	26.92 ft
2nd FL. PERCENT FULL HEIGHT SHEATHING =	63 %
2nd FL. MAX. UNRESTRAINED OPENING HEIGHT =	6.83 ft
SHEAR ADJUSTMENT FACTOR (C_u) =	0.653 (TABLE 2305.3.7.2, IBC)
2nd FL. NUMBER OF SHEARWALLS (N_{side}) =	2
ADDITIONAL WALL LOAD =	0 lbs

$$\text{SHEARWALL REACTION } (R_{sid2}) = W_2 \cdot w_{f,para} / N_{sid2} + \text{ADDITIONAL} =$$
$$R_{sid2} = 48.08 \text{ ft} \cdot 204 \text{ plf} / 2 + 0 \text{ lbs} =$$

4905 lbs

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS } (L_{sw}) = R_{sid2} / V =$$

$$4905 \text{ lbs} / 384 \text{ plf} =$$

12.77 ft

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (SIDEWALL)} = L_{sw} / C_D = 12.77 \text{ ft} / 0.663 =$$

19.27 ft

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 19.27 ft

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PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 26.92 ftSIDEWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

SECOND FLOOR SIDEWALL #1: UPLIFT DUE TO OVERTURNING

$$\begin{aligned} \text{SUM OF FULL HEIGHT SHEATHING PROVIDED } (\Sigma L_s) &= 26.92 \text{ ft} \\ \text{SHEARWALL ADJUSTMENT FACTOR } (C_D) &= 0.663 \\ \text{SHEARWALL REACTION } (R_{sid1}) &= 4905 \text{ lbs} \\ \text{WALL HEIGHT } (H) &= 8.5 \text{ ft} \end{aligned}$$

$$\text{UPLIFT FORCE } (U_{E1}) = \frac{R_{sid1} \times H}{\Sigma L_s \times C_D} =$$

$$U_{E1} = \frac{4905 \text{ lbs} \times 8.5 \text{ ft}}{26.92 \text{ ft} \times 0.663} = 2336 \text{ lbs}$$

SEE PAGE 23 FOR CONNECTION DESIGN

SECOND FLOOR SIDEWALL #2 SHEATHING LENGTH REQUIREMENTS
BEDROOMS #2 & #3

$$\begin{aligned} \text{FIRST FLOOR WIDTH } (W_1) &= 48.08 \text{ ft} \\ \text{SECOND FLOOR WIDTH } (W_2) &= 48.08 \text{ ft} \\ \text{FIRST FLOOR LENGTH } (L_1) &= 42.67 \text{ ft} \\ \text{SECOND FLOOR LENGTH } (L_2) &= 42.67 \text{ ft} \\ \text{SHEARWALL TYPE: } &7/16" \text{ OSB EXTERIOR (BLOCKED) w/ } 1/2" \text{ GWB INTERIOR} \\ \text{SHEATHING EDGE } 8d \text{ NAIL SPACING} &= 6 \text{ in O.C. (8d NAILS OR EQUIVALENT)} \\ \text{SHEARWALL STRENGTH } (V) &= 384 \text{ plf} \\ \text{MIN. SHEARWALL SEGMENT LENGTH} &= 2.4 \text{ ft} \\ \text{SUM OF FULL HEIGHT SHEATHING PROVIDED } (\Sigma L_s) &= 21.79 \text{ ft} \\ \text{2nd FL. PERCENT FULL HEIGHT SHEATHING} &= 63 \% \\ \text{2nd FL. MAX. UNRESTRAINED OPENING HEIGHT} &= 6.19 \text{ ft} \\ \text{SHEAR ADJUSTMENT FACTOR } (C_D) &= 0.736 \text{ (TABLE 2305.3.7.2, IBC)} \\ \text{2nd FL. NUMBER OF SHEARWALLS } (N_{sid2}) &= 2 \\ \text{ADDITIONAL WALL LOAD} &= 0 \text{ lbs} \end{aligned}$$

$$\text{SHEARWALL REACTION } (R_{sid2}) = W_2 \cdot w_{f,para} / N_{sid2} + \text{ADDITIONAL} =$$
$$R_{sid2} = 48.08 \text{ ft} \cdot 204 \text{ plf} / 2 + 0 \text{ lbs} =$$

4905 lbs

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS } (L_{sw}) = R_{sid2} / V =$$

$$4905 \text{ lbs} / 384 \text{ plf} =$$

12.77 ft

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (SIDEWALL)} = L_{sw} / C_D = 12.77 \text{ ft} / 0.736 =$$

17.36 ft

PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 17.36 ft

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PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 21.79 ftSIDEWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

SECOND FLOOR SIDEWALL #2: UPLIFT DUE TO OVERTURNING

$$\begin{aligned} \text{SUM OF FULL HEIGHT SHEATHING PROVIDED } (\Sigma L_s) &= 21.79 \text{ ft} \\ \text{SHEARWALL ADJUSTMENT FACTOR } (C_D) &= 0.736 \\ \text{SHEARWALL REACTION } (R_{sid1}) &= 4905 \text{ lbs} \\ \text{WALL HEIGHT } (H) &= 8.5 \text{ ft} \end{aligned}$$

$$\text{UPLIFT FORCE } (U_{E1}) = \frac{R_{sid1} \times H}{\Sigma L_s \times C_D} =$$

$$U_{E1} = \frac{4905 \text{ lbs} \times 8.5 \text{ ft}}{21.79 \text{ ft} \times 0.736} = 2600 \text{ lbs}$$

SEE PAGE 23 FOR CONNECTION DESIGN

SECOND FLOOR SIDEWALL: SHEAR CONNECTIONS

SECOND FLOOR WIDTH (W_2) =	48.08 ft	
SECOND FLOOR LENGTH (L_2) =	42.67 ft	
$FL_{1\text{plate}}$ =	126 plf	
1/2" ANCHOR BOLT	Z =	1056 lbs
5/8" ANCHOR BOLT	Z =	1488 lbs
0.162" x 3.5" COMMON NAIL (TOENAILED)	Z =	158 lbs
0.162" x 3.5" COMMON NAIL (FACE NAILED)	Z =	191 lbs
(1) SIMPSON LTP4 PLATE	Z =	575 lbs

MAXIMUM SECOND FLOOR SIDEWALL SHEAR LOAD = 4905 plf

RIMBANDS TO BOTTOM, BEARING & TOP PLATE CONNECTION:

$V = \text{MAX SIDEWALL SHEAR} + W_2 \times FL_{1\text{plate}} / 2$		
$V = 4905 \text{ lbs} + 48.08 \text{ ft} \times 126 \text{ plf} / 2$		
		7934 plf
# TOENAILS PER FOOT =	$V / Z / L = 7934 \text{ lbs} / 158 \text{ lbs} / 42.67 \text{ ft} =$	1.2 NAILS / ft
TOENAIL SPACING =	$12 / \# = 12 / 1.2 =$	10" O.C. (16" MAX)
# LTP4 PLATES PER FOOT =	$V / Z / W = 7934 \text{ lbs} / 575 \text{ lbs} / 42.67 \text{ ft} =$	0.3 PLATES / ft
LTP4 PLATE SPACING =	$12 / \# = 12 / 0.3 =$	37" O.C. (72" MAX)

USE 0.162" x 3.5" COMMON NAIL (TOENAILED) @ 10" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 37" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 7935 lbs

BEARING PLATE TO CEILING BAND CONNECTION:

# FACENAILS PER FOOT =	$V / Z / W = 7934 \text{ lbs} / 191 \text{ lbs} / 42.67 \text{ ft} =$	
# FACENAILS PER FOOT =	1.0 NAILS / ft	
FACENAIL SPACING =	$12 / \# = 12 / 1 =$	12" O.C. (16" MAX)

USE 0.162" x 3.5" COMMON NAIL (FACE NAILED) @ 12" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 37" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 7935 lbs

CHECK SHEATHING TO RIMBAND CONNECTION:

UNIT SHEAR CHECK:

SHEAR FORCE (V) = $\frac{R_{\text{side2}}}{\sum L_i \times C_o}$ =		
SECOND FLOOR SIDEWALL #1:	$V = \frac{4905 \text{ lbs}}{26.92 \text{ ft} \times 0.663}$	276 plf
SECOND FLOOR SIDEWALL #2:	$V = \frac{4905 \text{ lbs}}{21.79 \text{ ft} \times 0.738}$	306 plf

MAXIMUM SECOND FLOOR SIDEWALL UNIT SHEAR = 306 plf

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER	Z =	95 lbs
# OF 8d NAILS PER FOOT =	$\frac{V}{Z} = \frac{306 \text{ plf}}{95 \text{ lbs / NAIL}}$	
# OF 8d NAILS PER FOOT =	3.23 NAILS PER FOOT	
OVERALL 8d NAIL SPACING =	$12 / \# = 12 / 3.23 =$	3.71" O.C.
# OF ROWS:	1 ROW(S)	
8d NAIL SPACING WITHIN EACH ROW =	1" SPACING 1" 3.71 o.c.	3" O.C.

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 306 plf

UNIT UPLIFT CHECK: (EQUAL TO UNIT SHEAR)

CHECK #8d NAILS REQUIRED FOR SHEATHING CONNECTION:

8d COMMON NAIL (FACE NAILED), 7/16" SIDE MEMBER $Z = 95 \text{ lbs}$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{306 \text{ plf}}{95 \text{ lbs / NAIL}}$$

$\# \text{ OF } 8d \text{ NAILS PER FOOT} = 3.23 \text{ NAILS PER FOOT}$

OVERALL 8d NAIL SPACING = $12 / \# = 12 / 3.23 = 3.71 \text{ " O.C.}$

$\# \text{ OF ROWS: } 1 \text{ ROW(S)}$

8d NAIL SPACING WITHIN EACH ROW = $1 \text{ " SPACING } 1 \times 3.71 \text{ o.c. } 3 \text{ " O.C.}$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 3" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 306 plf

ALTERNATE SHEATHING CONNECTION FOR UNIT UPLIFT (GLUE):

200 psi MINIMUM CONSTRUCTION ADHESIVE $Z = 200 \text{ psi (FACE)}$

WIDTH OF GLUE REQUIRED FOR SHEATHING CONNECTION ALONG FLOOR BAND:

$$\text{WIDTH OF GLUE STRIP REQUIRED} = \frac{V}{Z} = \frac{306 \text{ plf}}{200 \text{ psi} \times 12 \text{ " / ft}} = 1 \text{ "}$$

FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

FIRST FLOOR SIDEWALL #1 SHEATHING LENGTH REQUIREMENTS
SUN ROOM / FAMILY

FIRST FLOOR WIDTH (W_1) = 48.08 ft

SECOND FLOOR WIDTH (W_2) = 48.08 ft

FIRST FLOOR LENGTH (L_1) = 42.67 ft

SECOND FLOOR LENGTH (L_2) = 42.67 ft

SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR

SHEATHING EDGE 8d NAIL SPACING = 4 in O.C. (8d NAILS OR EQUIVALENT)

SHEARWALL STRENGTH (V) = 525 plf

MIN. SHEARWALL SEGMENT LENGTH = 2.6 ft

FULL HEIGHT SHEATHING PROVIDED = 21.67 ft

1st FL. PERCENT FULL HEIGHT SHEATHING = 68 %

1st FL. MAX. UNRESTRAINED OPENING HEIGHT = 6.52 ft

SHEAR ADJUSTMENT FACTOR (C_o) = 0.733 (TABLE 2305.3.7.2, IBC)

1st FL. NUMBER OF SHEARWALLS (N_{sid1}) = 2

ADDITIONAL WALL LOAD = 0 lbs

$$\text{SHEARWALL REACTION } (R_{sid1}) = W_1 \times F_{L1perm} / N_{sid1} + R_{sid2} + \text{ADDITIONAL} =$$

$$R_{sid1} = 48.08 \text{ ft} \times 126 \text{ plf} / 2 + 4905 \text{ lbs} + 0 \text{ lbs} = 7935 \text{ lbs}$$

$$\text{MIN. LENGTH SEGMENTED SHEARWALLS } (L_{sw}) = R_{sid1} / V = 7935 \text{ lbs} / 525 \text{ plf} = 15.11 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (SIDEWALL)} = L_{sw} / C_o = 15.11 \text{ ft} / 0.733 = 20.62 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING REQUIRED} = 20.62 \text{ ft}$$

$$\text{PERFORATED FULL HEIGHT SHEATHING PROVIDED} = 21.67 \text{ ft}$$

SIDEWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR SIDEWALL #1: UPLIFT DUE TO OVERTURNING

SUM OF FULL HEIGHT SHEATHING PROVIDED (ΣL) = 21.67 ft

SHEARWALL ADJUSTMENT FACTOR (C_o) = 0.733

SHEARWALL REACTION (R_{sid1}) = 7935 lbs

WALL HEIGHT (H) = 9 ft

$$\text{UPLIFT FORCE } (U_{E1}) = \frac{R_{sid1} \times H}{\Sigma L \times C_o} + U_{E2} =$$

$$U_{E1} = \frac{7935 \text{ lbs} \times 9 \text{ ft} + 2336 \text{ lbs}}{21.67 \times 0.733} = 6833 \text{ lbs}$$

SEE PAGE 23 FOR CONNECTION DESIGN

FIRST FLOOR SIDEWALL #2 SHEATHING LENGTH REQUIREMENTS
LIVING / DINING

FIRST FLOOR WIDTH (W_1) =	48.08 ft	
SECOND FLOOR WIDTH (W_2) =	48.08 ft	
FIRST FLOOR LENGTH (L_1) =	42.67 ft	
SECOND FLOOR LENGTH (L_2) =	42.67 ft	
SHEARWALL TYPE: 7/16" OSB EXTERIOR (BLOCKED) w/ 1/2" GWB INTERIOR		
SHEATHING EDGE 8d NAIL SPACING =	4 in O.C. (8d NAILS OR EQUIVALENT)	
SHEARWALL STRENGTH (V) =	525 plf	
MIN. SHEARWALL SEGMENT LENGTH =	2.5 ft	
FULL HEIGHT SHEATHING PROVIDED =	21.67 ft	
1st FL. PERCENT FULL HEIGHT SHEATHING =	69 %	
1st FL. MAX. UNRESTRAINED OPENING HEIGHT =	6.83 ft	
SHEAR ADJUSTMENT FACTOR (C_d) =	0.721 (TABLE 2305.3.7.2, IBC)	
1st FL. NUMBER OF SHEARWALLS (N_{side}) =	2	
ADDITIONAL WALL LOAD =	0 lbs	
SHEARWALL REACTION (R_{side1}) = $W_1 \cdot FL_{para} / N_{side} + R_{side2} + \text{ADDITIONAL} =$		
$R_{side1} = 48.08 \text{ ft} \cdot 126 \text{ plf} / 2 + 4905 \text{ lbs} + 0 \text{ lbs} =$		7935 lbs
MIN. LENGTH SEGMENTED SHEARWALLS (L_{sw}) = $R_{side1} / V =$	$7935 \text{ lbs} / 525 \text{ plf} =$	15.11 ft

PERFORATED FULL HEIGHT SHEATHING LENGTH REQUIRED (SIDEWALL) = $L_{sw} / C_d = 15.11 \text{ ft} / 0.721 =$	20.97 ft
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PERFORATED FULL HEIGHT SHEATHING
REQUIRED = 20.97 ft

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PERFORATED FULL HEIGHT SHEATHING
PROVIDED = 21.67 ftSIDEWALL SHEARWALLS OK
ALL EXTERIOR SHEATHING TO BE BLOCKED UNO

FIRST FLOOR SIDEWALL #2: UPLIFT DUE TO OVERTURNING

SUM OF FULL HEIGHT SHEATHING PROVIDED (ΣL_1) =	21.67 ft	
SHEARWALL ADJUSTMENT FACTOR (C_d) =	0.721	
SHEARWALL REACTION (R_{side1}) =	7935 lbs	
WALL HEIGHT (H) =	9 ft	
UPLIFT FORCE (U_{G1}) = $\frac{R_{side1} \times H}{\Sigma L_1 \times C_d} + U_{G2} =$		
$U_{G1} = \frac{7935 \text{ lbs} \times 9 \text{ ft} + 2600 \text{ lbs}}{21.67 \times 0.721} =$		7171 lbs

SEE PAGE 23 FOR CONNECTION DESIGN

FIRST FLOOR SIDEWALL: SHEAR CONNECTIONS

FIRST FLOOR WIDTH (W_1) =	48.08 ft	
FIRST FLOOR LENGTH (L_1) =	42.67 ft	
$FL_{para} =$	126 plf	
1/2" ANCHOR BOLT	Z =	1058 lbs
5/8" ANCHOR BOLT	Z =	1488 lbs
0.162" x 3.5" COMMON NAIL (TOENAIL)	Z =	158 lbs
(1) SIMPSON LTP4 PLATE	Z =	575 lbs
MAXIMUM FIRST FLOOR SIDEWALL SHEAR LOAD =		7935 lbs

RIMBAND TO SILL PLATE CONNECTION:

$V = \text{MAX SIDEWALL SHEAR} + W_1 \times (3/4 \cdot FL_{para}) / 2 =$		
$V = 7935 \text{ lbs} + 48.08 \text{ ft} \times (3/4 \cdot 126 \text{ plf}) / 2 =$		10207 lbs
# TOENAILS PER FOOT =	$V / Z / L_1 = 10207 \text{ lbs} / 158 \text{ lbs} / 42.67 \text{ ft} =$	1.5 NAILS / ft
TOENAIL SPACING =	$12 / \# = 12 / 1.5 =$	7" O.C. (16" MAX)
# LTP4 PLATES PER FOOT =	$V / Z / W = 10207 \text{ lbs} / 575 \text{ lbs} / 42.67 \text{ ft} =$	0.4 PLATES / ft
LTP4 PLATE SPACING =	$12 / \# = 12 / 0.4 =$	28" O.C. (72" MAX)

USE 0.162" x 3.5" COMMON NAIL (TOENAIL) @ 7" ON CENTER
OR USE (1) SIMPSON LTP4 PLATE @ 28" ON CENTER
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 10207 lbs

SILL PLATE TO FOUNDATION CONNECTION:

$$\begin{aligned} \# 1/2" \text{ ANCHOR BOLTS} &= & V/Z &= 10207 \text{ lbs} / 1056 \text{ lbs} = & 10 \text{ BOLTS} \\ \text{BOLT SPACING} &= (L-2) / (N-1) = & (42.67 \text{ ft} - 2) / (10-1) &= & 54 \text{ in} \end{aligned}$$

USE 1/2" ANCHOR BOLTS @ 54" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 10207 lbs

$$\begin{aligned} \# 5/8" \text{ ANCHOR BOLTS} &= & V/Z &= 10207 \text{ lbs} / 1488 \text{ lbs} = & 7 \text{ BOLTS} \\ \text{BOLT SPACING} &= (L-2) / (N-1) = & (42.67 \text{ ft} - 2) / (7-1) &= & 72 \text{ in} \end{aligned}$$

USE 5/8" ANCHOR BOLTS @ 72" O.C.
ANCHOR BOLTS TO BE A MIN. OF 4" AND A MAX. OF 1'-0" FROM CORNERS
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 10207 lbs

CHECK SHEATHING TO RIMBAND CONNECTION:

UNIT SHEAR CHECK:

$$\text{SHEAR FORCE (V)} = \frac{R_{\text{shear}}}{\sum L_i \times C_o} =$$

$$\text{FIRST FLOOR SIDEWALL \#1: } V = \frac{7935 \text{ lbs}}{21.67 \text{ ft} \times 0.733} = 508 \text{ plf}$$

$$\text{FIRST FLOOR SIDEWALL \#2: } V = \frac{7935 \text{ lbs}}{21.67 \times 0.721} = 508 \text{ plf}$$

$$\text{MAXIMUM FIRST FLOOR SIDEWALL UNIT SHEAR} = 508 \text{ plf}$$

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

$$8d \text{ COMMON NAIL (FACE NAILED), } 7/16" \text{ SIDE MEMBER } Z = 95 \text{ lbs}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{508 \text{ plf}}{95 \text{ lbs / NAIL}}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = 5.35 \text{ NAILS PER FOOT}$$

$$\text{OVERALL } 8d \text{ NAIL SPACING} = 12 / \# = 12 / 5.35 = 2.24" \text{ O.C.}$$

$$\# \text{ OF ROWS: } 1 \text{ ROW(S)}$$

$$8d \text{ NAIL SPACING WITHIN EACH ROW} = 1" \text{ SPACING } 1" \times 2.24 \text{ o.c. } 2" \text{ O.C.}$$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 2" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 508 plf

UNIT UPLIFT CHECK: (EQUAL TO UNIT SHEAR)

CHECK # 8d NAILS REQUIRED FOR SHEATHING CONNECTION:

$$8d \text{ COMMON NAIL (FACE NAILED), } 7/16" \text{ SIDE MEMBER } Z = 95 \text{ lbs}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = \frac{V}{Z} = \frac{508 \text{ plf}}{95 \text{ lbs / NAIL}}$$

$$\# \text{ OF } 8d \text{ NAILS PER FOOT} = 5.35 \text{ NAILS PER FOOT}$$

$$\text{OVERALL } 8d \text{ NAIL SPACING} = 12 / \# = 12 / 5.35 = 2.24" \text{ O.C.}$$

$$\# \text{ OF ROWS: } 1 \text{ ROW(S)}$$

$$8d \text{ NAIL SPACING WITHIN EACH ROW} = 1" \text{ SPACING } 1" \times 2.24 \text{ o.c. } 2" \text{ O.C.}$$

USE SHEATHING CONNECTION WITH 1 ROW(S) OF 8d NAILS AT 2" O.C.
OR CONNECTION TO WITHSTAND A SHEAR FORCE OF 508 plf

ALTERNATE SHEATHING CONNECTION FOR UNIT UPLIFT (GLUE):

$$V = 508 \text{ plf}$$

200 psi MINIMUM CONSTRUCTION ADHESIVE

$$Z = 200 \text{ psi (FACE)}$$

WIDTH OF GLUE REQUIRED FOR SHEATHING CONNECTION ALONG FLOOR BAND:

$$\text{WIDTH OF GLUE STRIP REQUIRED} = \frac{V}{Z} = \frac{508 \text{ plf}}{200 \text{ psi} \times 12 \text{ in/ft}} = 2 \text{ in}$$

FASTEN SHEATHING TO BAND WITH 1" WIDE STRIP OF 200 psi MINIMUM CONSTRUCTION ADHESIVE

COMBINED CORNER HOLDDOWN REQUIREMENTS

UPLIFT FORCES: (SEE ABOVE FOR CALCULATIONS)

2nd FLOOR ENDWALL #1 UPLIFT FORCE (U_{E2}) =	2700 lbs
2nd FLOOR ENDWALL #2 UPLIFT FORCE (U_{E2}) =	1550 lbs
2nd FLOOR SIDEWALL #1 UPLIFT FORCE (U_{S2}) =	2336 lbs
2nd FLOOR SIDEWALL #2 UPLIFT FORCE (U_{S2}) =	2600 lbs
1st FLOOR ENDWALL #1 UPLIFT FORCE (U_{E1}) =	8135 lbs
1st FLOOR ENDWALL #2 UPLIFT FORCE (U_{E1}) =	6843 lbs
1st FLOOR SIDEWALL #1 UPLIFT FORCE (U_{S1}) =	6833 lbs
1st FLOOR SIDEWALL #2 UPLIFT FORCE (U_{S1}) =	7171 lbs

DEAD LOADS:

EFFECTIVE FIRST FLOOR WIDTH (W_1) =	29.17 ft (MAX: 4 * CEILING HEIGHT)
EFFECTIVE SECOND FLOOR WIDTH (W_2) =	29.17 ft (MAX: 4 * CEILING HEIGHT)
EFFECTIVE FIRST FLOOR LENGTH (L_1) =	21.83 ft (MAX: 4 * CEILING HEIGHT)
EFFECTIVE SECOND FLOOR LENGTH (L_2) =	21.25 ft (MAX: 4 * CEILING HEIGHT)
FIRST FLOOR HEIGHT (H_1) =	9 ft
SECOND FLOOR HEIGHT (H_2) =	8.5 ft
ROOF & CEILING ASSEMBLY DEAD LOAD (RDL) =	15 psf
WALL DEAD LOAD (WDL) =	12 psf
FLOOR DEAD LOAD (FDL) =	10 psf

SIDEWALL SECOND FLOOR CORNER:

$$\begin{aligned} \text{ROOF DEAD LOAD} &= 0.6 * \text{RDL} * W_2 * L_2 / 8 = \\ \text{ROOF DEAD LOAD} &= 0.6 * 15 \text{ psf} * 29.17 \text{ ft} * 21.25 \text{ ft} / 8 = 697 \text{ lbs} \\ \text{WALL DEAD LOAD} &= 0.6 * (\text{WDL} * H_2 * L_2 / 2) = \\ &= 0.6 * 12 \text{ psf} * 8.5 \text{ ft} * 21.25 \text{ ft} / 2 = 650 \text{ lbs} \\ \text{TOTAL DEAD LOAD} &= 697 \text{ lbs} + 650 \text{ lbs} = 1348 \text{ lbs} \end{aligned}$$

$$\begin{aligned} \text{CORNER STUD CONNECTION LOAD} &= \text{MAX WALL UPLIFT} - \text{SELF WEIGHT} = \\ &= 2600 \text{ lbs} - 1348 \text{ lbs} = 1252 \text{ lbs} \end{aligned}$$

SIDEWALL FIRST FLOOR CORNER:

$$\begin{aligned} \text{WALL DEAD LOAD} &= 0.6 * (\text{WDL} * H_1 * L_1 / 2) = \\ \text{WALL DEAD LOAD} &= 0.6 * 12 \text{ psf} * 9 \text{ ft} * 21.83 \text{ ft} / 2 = 707 \text{ lbs} \\ \text{2nd FLOOR DEAD LOAD} &= 0.6 * \text{FDL} * W_2 * L_2 / 8 = \\ \text{2nd FLOOR DEAD LOAD} &= 0.6 * 10 \text{ psf} * 29.17 \text{ ft} * 21.25 \text{ ft} / 8 = 465 \text{ lbs} \\ \text{1st FLOOR DEAD LOAD} &= 0.6 * \text{FDL} * W_1 * L_1 / 8 = \\ \text{1st FLOOR DEAD LOAD} &= 0.6 * 10 \text{ psf} * 29.17 \text{ ft} * 21.83 \text{ ft} / 8 = 478 \text{ lbs} \\ \text{TOTAL DEAD LOAD} &= 707 \text{ lbs} + 465 \text{ lbs} + 478 \text{ lbs} = 1650 \text{ lbs} \end{aligned}$$

$$\begin{aligned} \text{CORNER STUD CONNECTION LOAD} &= \text{MAX WALL UPLIFT} - \text{SELF WEIGHT, INCLUDING ABOVE WALL(S)} \\ &= 7171 \text{ lbs} - 1650 \text{ lbs} - 1348 \text{ lbs} = 4173 \text{ lbs} \end{aligned}$$

ENDWALL SECOND FLOOR CORNER:

$$\begin{aligned} \text{WALL DEAD LOAD} &= 0.6 * (\text{WDL} * H_2 * W_2 / 2) = \\ \text{WALL DEAD LOAD} &= 0.6 * 12 \text{ psf} * 8.5 \text{ ft} * 29.17 \text{ ft} / 2 = 893 \text{ lbs} \\ \text{GABLE WALL DEAD LOAD} &= 0.6 * (\text{WDL} * (H / 2) * W / 2) = \\ \text{GABLE WALL DEAD LOAD} &= 0.6 * 12 \text{ psf} * (9 / 2) * (29.17 \text{ ft} / 2) = 576 \text{ lbs} \\ \text{TOTAL DEAD LOAD} &= 893 \text{ lbs} + 576 \text{ lbs} = 1468 \text{ lbs} \end{aligned}$$

$$\begin{aligned} \text{CORNER STUD CONNECTION LOAD} &= \text{MAX WALL UPLIFT} - \text{SELF WEIGHT} \\ &= 2700 \text{ lbs} - 1468 \text{ lbs} = 1232 \text{ lbs} \end{aligned}$$

ENDWALL FIRST FLOOR CORNER:

$$\text{WALL DEAD LOAD} = 0.6 * (\text{WDL} * H_1 * W_1 / 2) =$$

$$\text{WALL DEAD LOAD} = 0.6 * 12 \text{ psf} * 9 \text{ ft} * 29.17 \text{ ft} / 2 =$$

946 lbs

$$\text{CORNER STUD CONNECTION LOAD} = \text{MAX WALL UPLIFT - SELF WEIGHT, INCLUDING ABOVE WALL(S)}$$

$$8135 \text{ lbs} - 946 \text{ lbs} - 1468 \text{ lbs} =$$

5721 lbs

SECOND FLOOR CORNER HOLDDOWNS

$$\text{UPLIFT FORCE} =$$

2700 lbs (MAX. OF SECOND FLOOR UPLIFT FORCES)

$$\text{SECOND FLOOR DEAD LOAD (DL}_2\text{)} = 1348 \text{ lbs} + 1468 \text{ lbs} =$$

2816 lbs

$$\text{HOLDDOWN FORCE} = 2700 \text{ lbs} - 2816 \text{ lbs} =$$

0 lbs

CHECK FASTENERS:

8d NAIL

Z =

76.7 lbs

$$0 \text{ lbs} / 76.7 \text{ lbs} / \text{FASTENER} =$$

0 FASTENERS

USE (0) 8d NAIL(S) EACH END

16 ga. STAPLE

Z =

49.9 lbs

$$0 \text{ lbs} / 49.9 \text{ lbs} / \text{FASTENER} =$$

0 FASTENERS

USE (0) 16 ga. STAPLE(S) EACH END

NO PHYSICAL HOLDDOWN REQUIRED

SECOND FLOOR CORNER STUD CONNECTION

$$16\text{d COMMON NAIL ALLOWABLE SHEAR (Z)} =$$

191 lbs

$$\text{MAX CORNER STUD CONNECTION LOAD} =$$

1252 lbs

$$\text{NAIL SPACING (2 ROWS)} = \frac{2 * H * Z}{U} = \frac{2 * 8.5 \text{ ft} * 191 \text{ lbs}}{1252 \text{ lbs}} =$$

16 in O.C.
(16" MAX)

$$\# \text{ OF } 1/4" \text{ DIA. LAG SCREW REQUIRED} =$$

$$\frac{U}{Z} = \frac{1252 \text{ lbs}}{224 \text{ lbs}} =$$

6 LAG SCREWS
(6 MIN)

**FASTEN CORNER STUDS 2 ROWS OF 16d COMMON NAILS @ 16" ON CENTER
OR USE (6) 1/4" DIA. LAG SCREWS**

FIRST FLOOR HOLDDOWNS

$$\text{UPLIFT FORCE} =$$

8135 lbs (MAX. OF FIRST FLOOR UPLIFT FORCES)

$$\text{FIRST FLOOR DEAD LOAD (DL}_1\text{)} = 1650 \text{ lbs} + 1348 \text{ lbs} + 1468 \text{ lbs} + 946 \text{ lbs} =$$

5412 lbs

$$\text{HOLDDOWN FORCE} = 8135 \text{ lbs} - 5412 \text{ lbs} =$$

2723 lbs

**USE A SIMPSON STHD10RJ AT EACH BUILDING CORNER OR EQUAL
OR CONNECTION TO WITHSTAND AN UPLIFT FORCE OF 2723 lbs**

FIRST FLOOR CORNER STUD CONNECTION

$$16\text{d COMMON NAIL ALLOWABLE SHEAR (Z)} =$$

191 lbs

$$\text{MAX CORNER STUD CONNECTION LOAD} =$$

5721 lbs

$$\text{NAIL SPACING (2 ROWS)} = \frac{2 * H * Z}{U} = \frac{2 * 9 \text{ ft} * 191 \text{ lbs}}{5721 \text{ lbs}} =$$

7 in O.C.
(16" MAX)

$$\# \text{ OF } 1/4" \text{ DIA. LAG SCREW REQUIRED} =$$

$$\frac{U}{Z} = \frac{5721 \text{ lbs}}{224 \text{ lbs}} =$$

26 LAG SCREWS
(6 MIN)

**FASTEN CORNER STUDS 2 ROWS OF 16d COMMON NAILS @ 7" ON CENTER
OR USE (26) 1/4" DIA. LAG SCREWS**

Section 3
HAND CALCULATIONS



11/16/12

110376

Integrity Building Systems, Inc.

DEALER: CONVENIENT INSTALLATION
CUSTOMER: MADISON

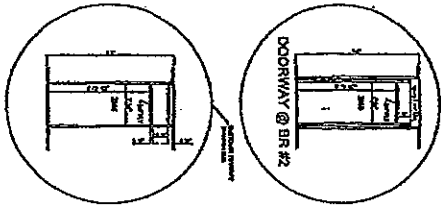
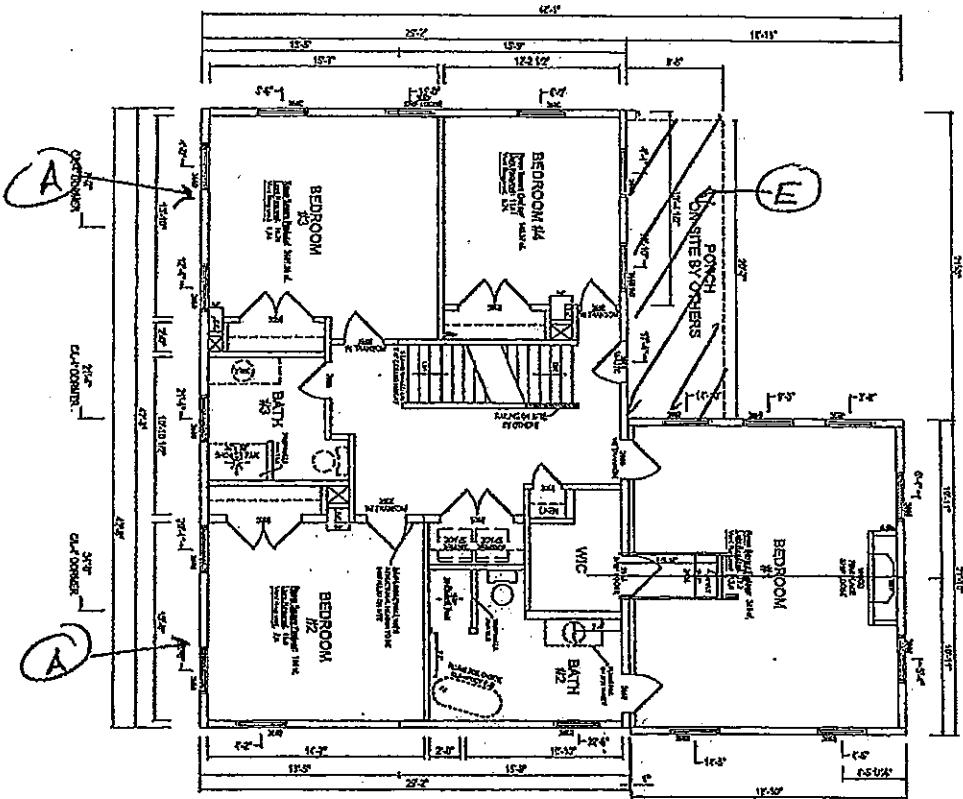
DATE: 5/24/10
DRAWN BY: CDK

MODEL: CUSTOM 2-STORY
Scale: 1/8" = 1'-0"

CONTROL NUMBER
C-484709-2

SUB-SET
A2

NOTES: ALL INTERIOR WALLS TO HAVE 1" INSULATION



2nd FLOOR
8'-6" CEILING

Room	Area	Perimeter	Volume	Notes
BEDROOM #1	121.00	78.00	1026.00	
BEDROOM #2	121.00	78.00	1026.00	
BEDROOM #3	121.00	78.00	1026.00	
BEDROOM #4	121.00	78.00	1026.00	
BATH #1	35.00	44.00	462.00	
BATH #2	35.00	44.00	462.00	
HALL	10.00	20.00	100.00	
STAIRS	10.00	20.00	100.00	
W.C.	5.00	10.00	50.00	
PORCH	10.00	20.00	100.00	
TOTAL	480.00	304.00	5752.00	

110376

Integrity Building Systems, Inc.

DEALER: CONVENIENT INSTALLATION

CUSTOMER: MADISON

DATE: 5/24/10

MODEL: CUSTOM 2-STORY

CONTROL NUMBER
C484709-2

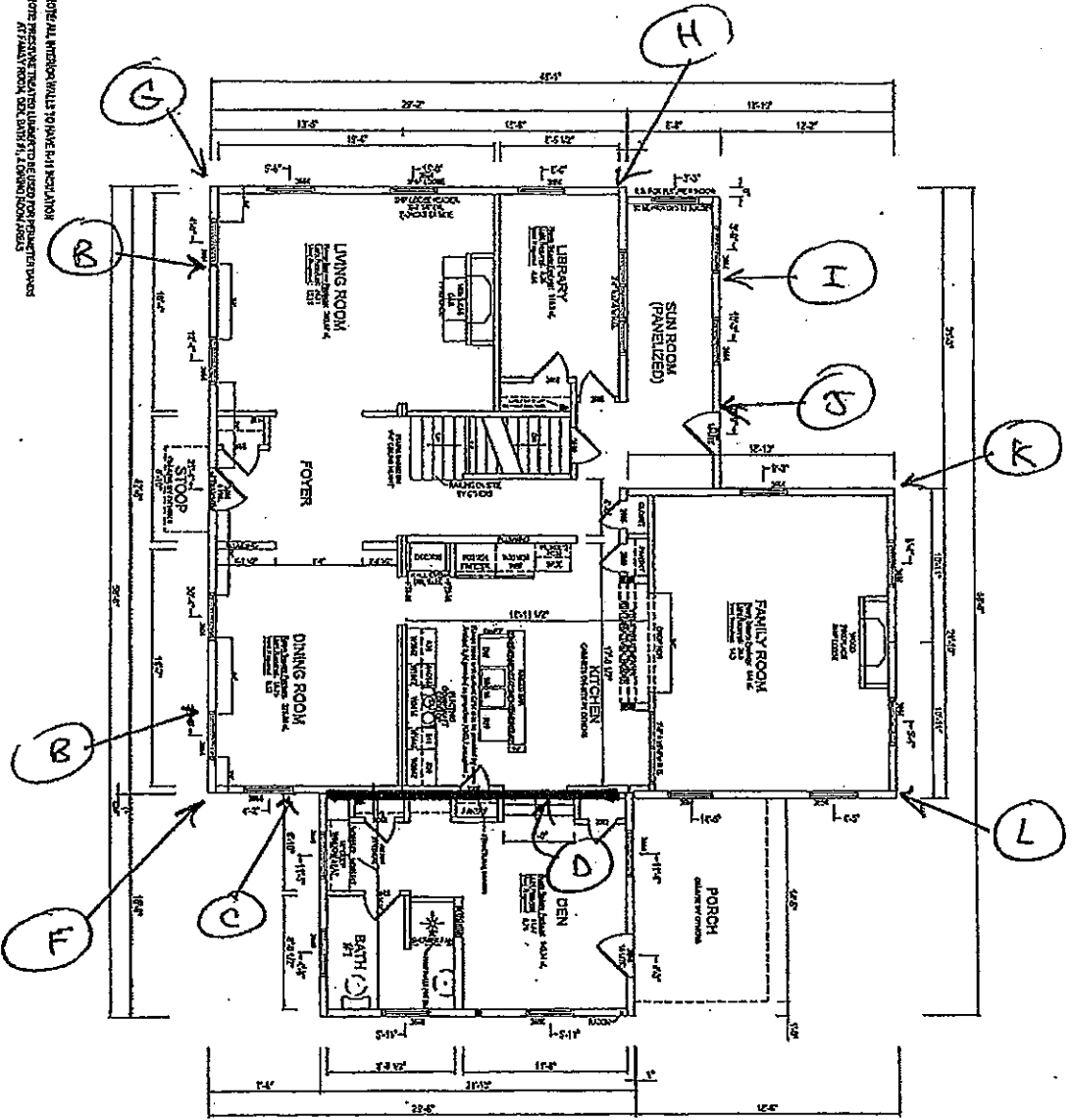
SUB-SET

A1

DP RATING: 25 MAX

STATE MODULAR LABEL
NTA LABEL
DATA PLATE

NOTE: ALL INTERIOR WALLS TO HAVE 5/8" INSULATION
NOTE: THE FLOOR IS TO BE CONCRETE ON PERMANENT FOUNDATION
NOTE: THE ROOF IS TO BE 1/2" INSULATION ON PERMANENT FOUNDATION



From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Monday, November 19, 2012 8:26 AM

To: Gina Schaecher; "Melis, Mike F."; Hodge, Vernon (DHCD); Ralph Rinaldi; Davis, Cindy (DHCD); "Thompson, Chris"; McMahan, Alan (DHCD); Shelton, Bill (DHCD); sjack@oag.state.va.us; Rodgers, Emory (DHCD); Leatherby, Eric (DHCD)

Cc: jared@markobenshain.com

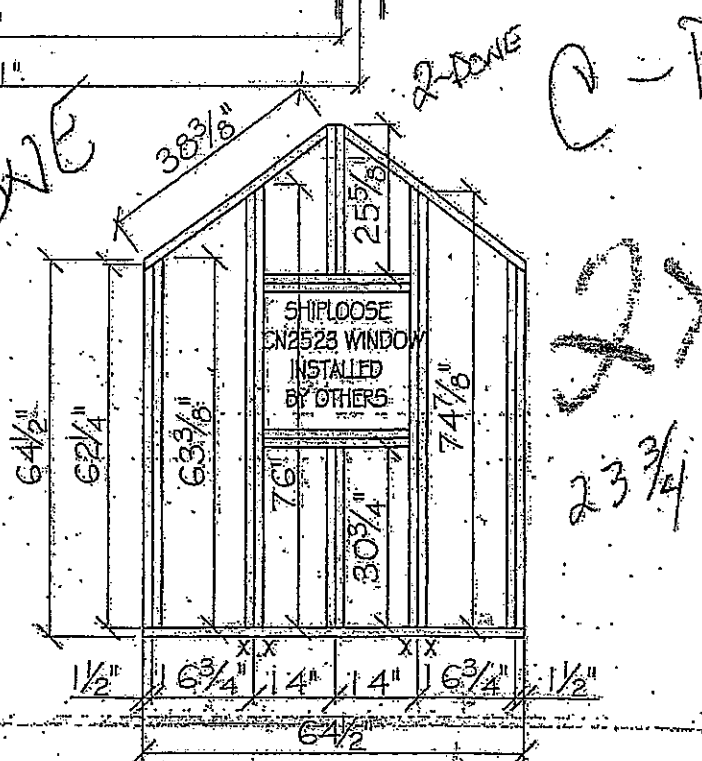
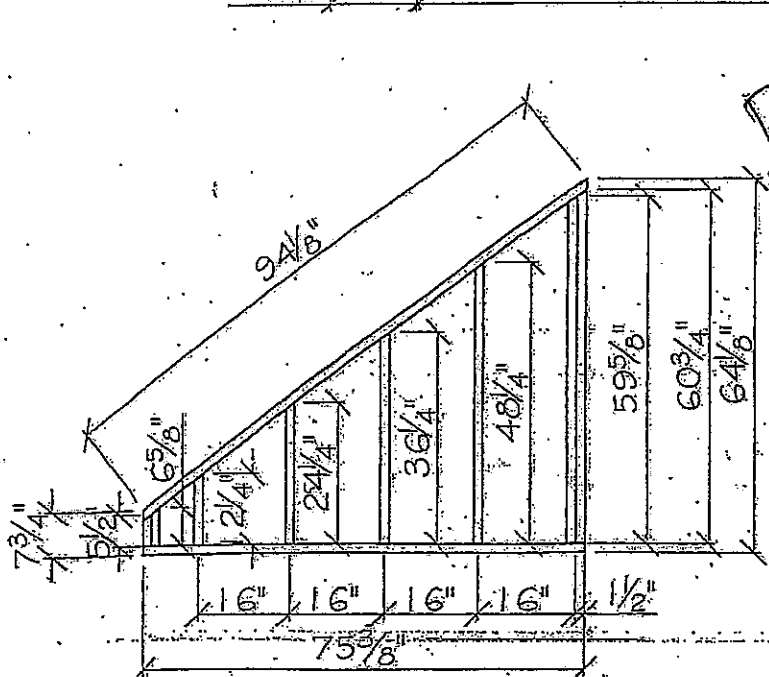
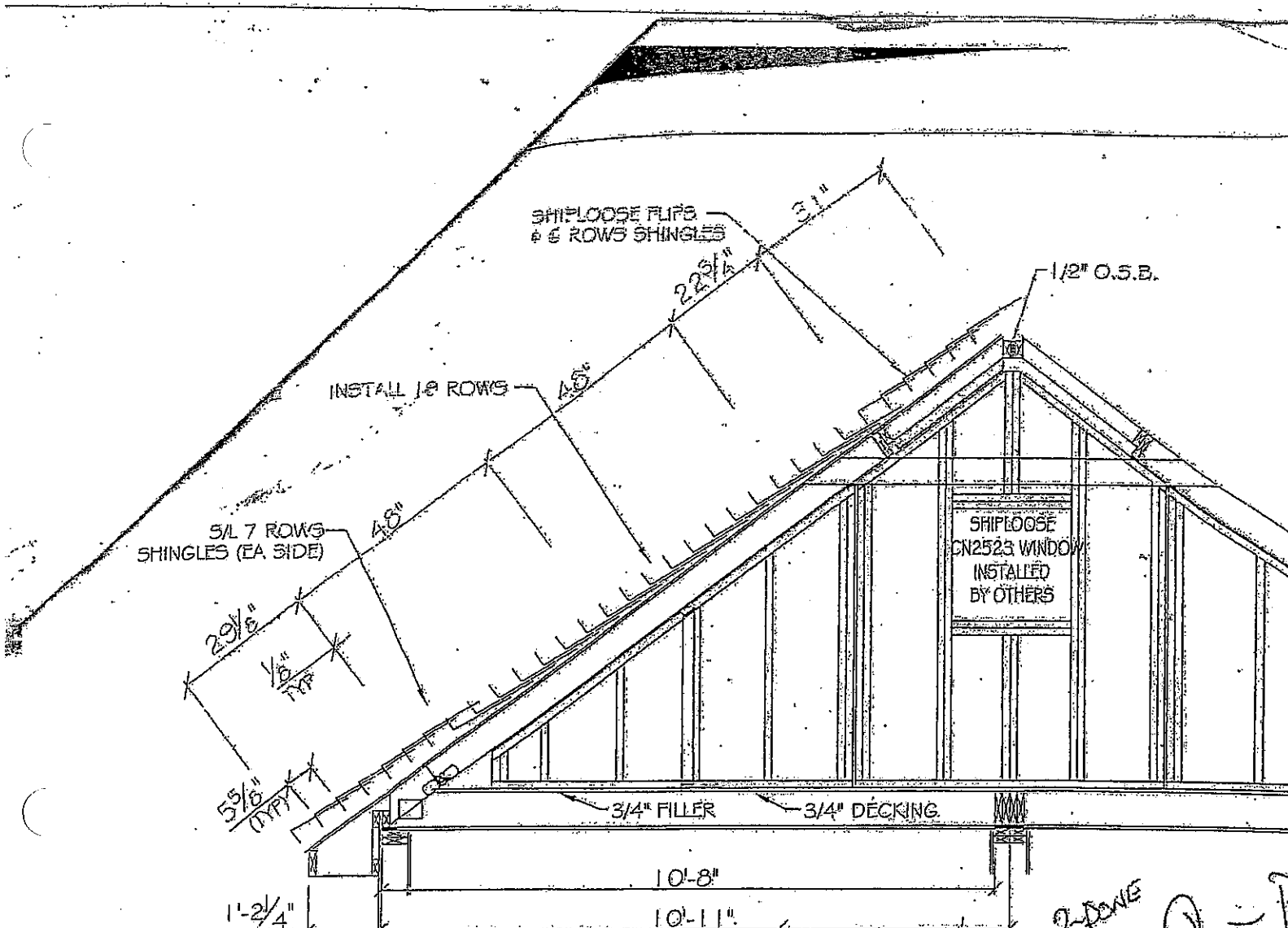
Subject: Milton's documentation shows 3/4 inch 3rd floor, plywood installed as delivered

Contrary to Milton's assertion, please see the attached document/plan that **SHOWS** a 3/4 inch third floor as delivered from the factory; hardly a limited "deck aisle" as described by Milton's attorney.

Further, the use of the third floor (this area came with the floor) even for "limited storage" access, per the IBC and the Milton attorney's **OWN ADMISSION**, (see below) renders it a third floor. Under a separate e-mail from Barlow Engineering, you have been sent the plan that calls out the third floor correctly. The plans, as certified by NTA Inc, per the IBSR need to be corrected by NTA Inc./Milton (13 VAC 5-91-250 at 1).

Section 202 identifies "an attic as that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story. A common misuse of terminology is the designation of a space as a habitable or occupiable attic."

Milari Madison



END WALL
 BUILD (2)
 (E) REVERSED

CENTER WALL 247
 W/CN2523 WINDOW

From: "Melis, Mike F." <mmellis@oag.state.va.us>
To: "alan.mcmahan@dhcd.virginia.gov" <alan.mcmahan@dhcd.virginia.gov>
Cc: Hunter Madison <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; Gina Schaecher <gschaecher@kasannlaw.com>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
Sent: Wednesday, November 21, 2012 9:47 AM
Subject: Milari Madison appeal to the Review Board

Mr. McMahan -

I am the Assistant Attorney General representing the State Building Code Administrative Office and assisting Cindy Davis on this appeal. In response to your e-mail on scheduling an informal fact-finding conference, I write to relay that Ms. Davis and I are available on December 11. If that date does not work, we can also be available on December 6.

Please include me on any future e-mails regarding this matter, and feel free to call or e-mail if you have any questions.

Thank you.

Mike F. Melis
Assistant Attorney General
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219
(804) 371-7965
(804) 371-2087 (fax)

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Sunday, November 25, 2012 7:56 AM
To: Melis, Mike F.; McMahan, Alan (DHCD)
Cc: Davis, Cindy (DHCD); Gina Schaecher; Thompson, Chris; Hodge, Vernon (DHCD); Ralph Rinaldi; sjack@oag.state.va.us; Rodgers, Emory (DHCD); Shelton, Bill (DHCD); jared@markobenshain.com
Subject: Re: Milari Madison appeal to the Review Board

Dear Mr. McMahan,

Your e-mail was routed to my spam folder. I have not seen it until recently and apologize for the delayed reply. Also, my computer has utterly failed so I am also limited to e-mail access.

As Eric Leatherby correctly advocated, NTA Inc. is a party to the complaint and should be invited/included. Upon the direction of DHCD, I was specifically advised that it was sufficient to include NTA Inc. within the complaint as was done. The attorney for NTA Inc. requested that I continue to copy him on the e-mails.

Just to be clear--- Ms. Cindy Davis refused to take any action with respect to my complaint citing that then Integrity was "out of business" when, in fact, they merely changed their name ignoring documentation from Integrity's attorney and the PA Corporation Commission that they simply changed their name. Her position, erroneous ab initio, is a re-invention of established Virginia law upon which Ms. Davis was never granted such authority by the General Assembly to do (but she did) and obstructs due process. Then, Ms Davis and later by Emory Rodgers, invited the appeal.

Assuming that the meeting will be in Leesburg, either date that Mr. Melis proposed, is acceptable. The proper parties need to receive notice, including NTA Inc.

Milari Madison 540-882-3160

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Tuesday, November 27, 2012 6:07 PM

To: McMahan, Alan (DHCD); Davis, Cindy (DHCD); gschaecher@kasannlaw.com; Thompson, Chris; Melis, Mike F.; Shelton, Bill (DHCD); Rodgers, Emory (DHCD); sjack@oag.state.va.us

Cc: Hodge, Vernon (DHCD); Leatherby, Eric (DHCD); jared@markobenshain.com; Ralph Rinaldi; lisa@readthehook.com

Subject: Madison appeal to the Review Board (Appeal No. 12-6) - DUE PROCESS

Please advise under what specific authority, ~~bestowed by the G.A.~~ you are acting upon to make the decision that NTA Inc. is not a party? I was advised it was satisfactory to include NTA Inc. with the IBS complaint and NOT a separate complaint. Further, even Mr. Leatherby recognized the need for their inclusion.

(Lisa and Jared, Please come to this meeting--- the public needs to know)

Milari Madison
540-882-3160

From: "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>
To: "huntermadison2002@yahoo.com" <huntermadison2002@yahoo.com>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "gschaecher@kasannlaw.com" <gschaecher@kasannlaw.com>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>; "Melis, Mike F." <mmelis@oag.state.va.us>
Cc: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>; "Leatherby, Eric (DHCD)" <Eric.Leatherby@dhcd.virginia.gov>
Sent: Monday, November 26, 2012 10:55 AM
Subject: Milari Madison appeal to the Review Board (Appeal No. 12-6)

Parties:

The second informal fact-finding for the subject appeal has been scheduled for Tuesday, December 11, 2012 at 11:00 in the morning. The meeting will take place at the same location, the Loudoun County Code Development Office. The address to that location is included on the attached notice which will be put in the mail to the parties today.

In response to Ms. Madison's November 25, 2012 email regarding NTA as a party, the Review Board staff does not consider NTA a party to the appeal. The parties are Ms. Madison, Ms. Davis (DHCD's industrialized building program administrator), Milton Home Systems, Inc. and the Loudoun County building department. However, parties in the appeal are allowed to invite others, like NTA, to attend and participate in the informal fact-finding conference.

Should you have any questions, please contact me.

Regards,

Alan McMahan, CBO
Senior Construction Inspector II and
Staff - State Building Code Technical Review Board
State Building Code Office
Division of Building & Fire Regulation
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, Virginia 23219
(804) 371-7175
(804) 371-7092 - fax
alan.mcmahan@dhcd.virginia.gov

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "mmelis@oag.state.va.us" <mmelis@oag.state.va.us>; Gina Schaecher <gschaecher@kasannlaw.com>; "Thompson, Chris" <Chris.Thompson@loudoun.gov>
Sent: Wednesday, November 28, 2012 10:06 PM
Subject: RE: Madison appeal to the Review Board (Appeal No. 12-6) - DUE PROCESS

Ms. Madison,

The Review Board's basic law ties its proceedings to the Virginia Administrative Process Act and authorizes informal fact-finding proceedings. The Review Board has delegated that function to its staff. That includes the authority to decide who to notify of an informal fact-finding conference.

The purpose of the informal fact-finding conference is to determine what issues are being appealed by the appealing party. You have not been consistent in your correspondence on identifying the issues you believe you have a right to appeal. Therefore, we have scheduled a second informal fact-finding conference to continue to try to pin down what your issues are and determine whether there are questions of whether they are valid appealable issues.

The parties in an appeal are generally those which may be affected adversely by a decision. In other words, they have a right to be involved so their due process rights are protected. Should the second informal fact-finding conference result in identifying any issues that the Review Board is being asked to rule on that in staff's opinion would make NTA a party, then we will include them in future correspondence and proceedings.

I would suggest that you just wait to see where things end up after the second informal fact-finding conference as we don't even know at this point what issues this appeal entails, so it is next to impossible to guess who should be involved other than you, the manufacturer, the local building official and the DHCD State Building Codes Office.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Leatherby, Eric (DHCD)
Sent: Thursday, November 29, 2012 9:35 AM
To: Rodgers, Emory (DHCD)
Subject: CAA fees

Emory,

The Industrialized Building Safety Regulations do not have any licensing requirements for CAAs. Additionally, section 13 VAC 5-91-180 of the Regulations, "Compliance Assurance Agencies", does not require an application fee for the CAAs.

Sections 13 VAC 5-91-180 through 13 VAC 5-91-200 specify the information that must be submitted to this office in order for a CAA to be approved. There are no fees referenced in these or any other sections of the Regulations that are applied to CAAs.

From: "Rodgers, Emory (DHCD)" <Emory.Rodgers@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Shelton, Bill (DHCD)" <Bill.Shelton@dhcd.virginia.gov>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "Leatherby, Eric (DHCD)" <Eric.L Leatherby@dhcd.virginia.gov>; "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
Sent: Thursday, November 29, 2012 9:56 AM
Subject: FW: CAA fees

Mrs. Madison, per your request.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Thursday, November 29, 2012 7:51 AM

To: Hodge, Vernon (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Ralph Rinaldi

Cc: Davis, Cindy (DHCD); mmelis@oag.state.va.us; Gina Schaecher; Thompson, Chris; sjack@oag.state.va.us; jared@markobenshain.com; lisa@readthehook.com; McMahan, Alan (DHCD); Leatherby, Eric (DHCD)

Subject: Re: Madison appeal to the Review Board (Appeal No. 12-6) - DUE PROCESS

NTA Inc. is a named party and they are entitled to notice under the APA. I apologize for my persistence but I cannot find anything in the code that authorizes the TRB to selectively notify named parties as I have read through the applicable sections. Mr. Leatherby supported the fact that NTA Inc. should be notified. Whether or not they wish to attend, is clearly up to them. There is simply no reason that NTA Inc should be excluded based on "desire". Clearly, the omission of NTA Inc was a decision reached by the TRB and/or DHCD and I would like a copy of all such e-mails/correspondence (at no charge) leading to the decision and/or refusal to include them.

At the last meeting, it was agreed that NTA erroneously certified that the data plate was correct. We now know the building is actually three stories, not two, as NTA Inc. erroneously affirms.

My appeal was solicited by DHCD, Cindy Davis and affirmed as a necessity of due process by Emory Rogers, based on re-write of VA law by Ms. Davis (essentially that she will not take action because she thought that IBS was "out of business" when documentation was provided by the PA Corporation Commission and by Milton's attorney, that they merely changed their name). After the lengthy discussion and review of the IBSR, which I appreciated but was obviously at best tangential to the appeal, it became abundantly clear that numerous violations related to the manufacturer/builder and CAA occurred and remain.

I am still waiting for the corrected plans under 13 VAC 5-91-250 (at no charge) as NTA Inc. is charged with applying the seals. Milton, providing set-up services and failed to comply with 13 VAC 5-91-270. In order for NTA Inc to become a Compliance Assurance Agency, required under 13 VAC 5-91-200, section 6 (procedures to deal with defects), based on NTA Inc's materials received through FOIA, NTA states that "All complaints by parties are fully resolved" (5-1 page 12 of 14). Further, @ 5-3 page 12 of 14, NTA states "Corrective action for non-conforming work is to be performed".

Ms. Davis should rescind her "determination" letter and DHCD should properly enforce the code against the builder/manufacturer/CAA to protect the public from nefarious businesses while upholding the intent and purpose of the various codes in place.

Milari Madison

From: Hodge, Vernon (DHCD)

Sent: Thursday, November 29, 2012 3:53 PM

To: Hunter Madison

Cc: Davis, Cindy (DHCD); mmelis@oag.state.va.us; Gina Schaecher; Thompson, Chris; McMahan, Alan (DHCD)

Subject: RE: Madison appeal to the Review Board (Appeal No. 12-6) - DUE PROCESS

Ms. Madison,

There are no documents involving my decision to not notify NTA of the informal fact-finding conferences. I made that decision based on my knowledge of past cases of the Review Board and I have explained that to you. NTA is welcome to attend and if they want to participate, we will decide how they should be permitted to do so at the conference, but we will not be notifying them of the conference.

Vernon Hodge, CBO, Technical & Code Development Specialist and Sectetary, State Technical Review Board
State Building Codes Office

Division of Building and Fire Regulation

Va. Department of Housing and Community Development

Direct Dial: (804) 371-7174

Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Friday, November 30, 2012 10:31 AM

To: Rodgers, Emory (DHCD)

Cc: Shelton, Bill (DHCD); Davis, Cindy (DHCD); Leatherby, Eric (DHCD); Hodge, Vernon (DHCD); McMahan, Alan (DHCD); "mmelis@oag.state.va.us"; Gina Schaecher; "Thompson, Chris"; "sjack@oag.state.va.us"; "jared@markobenshain.com"; "lisa@readthehook.com"

Subject: Re: CAA fees

Thank you for the clarification regarding fees. While you state "The Industrialized Building Safety Regulations **do not have any licensing requirements** for CAAs", the CAA's ~~do have~~ licensing requirements under the IBSR:

"Compliance assurance agency" as defined under 13 VAC 5-91-10. Definitions, meaning a "professional engineer registered in Virginia, or an organization, determined by Department of Housing and Community Development to be *specially qualified* by reason of facilities, personnel, experience, and demonstrated reliability, to investigate, test and evaluate industrialized buildings; to list such buildings complying with standards at least equal to this chapter; to provide adequate follow-up services at the point of manufacture to ensure that production units are in full compliance; and to provide a label as evidence of compliance on each manufactured section or module."

From: Hunter Madison [<mailto:huntermadison2002@yahoo.com>]

Sent: Monday, December 03, 2012 6:05 AM

To: Andy Gianino

Subject: Modular Home Construction

One question--- are straight stairs typically installed at the factory when they are contained within one box?

Thank you.

Milari Madison

From: Andy Gianino <andyg@the-homestore.com>
To: 'Hunter Madison' <huntermadison2002@yahoo.com>
Sent: Monday, December 3, 2012 8:05 AM
Subject: RE: Modular Home Construction

It depends on the orientation of the module relative to its length and width and the height of the ceiling. 13'9" wide modules with 8' ceilings should not have a problem regardless of which way the stairs run.

Andy Gianino
President
The Home Store
413-665-1266

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Tuesday, December 04, 2012 7:31 AM

To: Melis, Mike F.; Hodge, Vernon (DHCD)

Cc: Davis, Cindy (DHCD); gschaecher@kasannlaw.com; Thompson, Chris; McMahan, Alan (DHCD); Leatherby, Eric (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Ralph Rinaldi

Subject: Stairs typically installed at the factory

FYI-

Regardless of the appeal, I think it is important to the public that DHCD is clear; the modular industry certainly suggests that stairs are easily installed at the factory and that on-site installation is not "typical". A modular installer that I recently spoke with indicated it was likely that my stairs to the third floor were installed at the factory. In addition, the e-mail below is forwarded to you from a different modular expert that states stair installation at a factory is not a problem.

Thank you for your interest.

Milari madison

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Wednesday, December 05, 2012 10:19 AM
To: Rodgers, Emory (DHCD); Shelton, Bill (DHCD)
Cc: Davis, Cindy (DHCD); Leatherby, Eric (DHCD); Hodge, Vernon (DHCD); McMahan, Alan (DHCD)
Subject: NTA Inc. Compliance with Notice Requirement

I previously received two FOIA responses. In them though, I do not see NTA Inc's "notification" of the new contract or termination with Integrity Building Systems Inc. It is possible that I missed it.

13 VAC 5-91-40. Inspection and enforcement. The compliance assurance agency will notify the SBCAO within 30 days of signing a new contract or terminating an existing contract with any manufacturer.

Can you kindly direct that the notice be forwarded to me at no additional charge?

Milari Madison

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Monday, December 10, 2012 5:56 AM
To: Davis, Cindy (DHCD); mmelis@oag.state.va.us
Cc: McMahan, Alan (DHCD); Hodge, Vernon (DHCD); Shelton, Bill (DHCD)
Subject: Fw: NTA Inc. Compliance with Notice Requirement

Mr. Melis or Mr. Shelton,

Separate from any appeal, can you kindly direct the production of the document or confirm that it does not exist? E-mail is fine.

13 VAC 5-91-40. Inspection and enforcement. The compliance assurance agency will notify the SBCAO within 30 days of signing a new contract or terminating an existing contract with any manufacturer. I would like a copy of the notification (s) from NTA Inc. regarding Integrity Building Systems Inc (Milton).

Thank you.

Milari Madison

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Wednesday, December 12, 2012 7:01 AM
To: Hodge, Vernon (DHCD); Shelton, Bill (DHCD)
Cc: jared@markobenshain.com; Mark Obenshain; delgreason@gmail.com; mmelis@oag.state.va.us; Leatherby, Eric (DHCD); Chris Thompson; Davis, Cindy (DHCD); McMahan, Alan (DHCD); district13@senate.virginia.gov; sjack@oag.state.va.us
Subject: Advisory Opinion from the A.G. regarding DHCD/TRB

Dear Mr. Hodge,

Thank you for your assistance yesterday.

Independent of the appeal, I intend to ask Mr. Shelton and certain elected officials to seek an advisory opinion from the A.G.'s Office. I think a premise upon which the TRB is operating is incorrect and warrants clarification. It is important to realize due process for the public and to protect the public purse from an ineffectual system. Over the past several months, it is clear that I have expressed a number of concerns, and certainly hope that positive change can be achieved. Guidance is always a good thing and readily available through the A.G.

It is my own opinion that the G.A. never provided the TRB with the authority to *not hear* appeals because a violation was corrected. Further, in terms of using past case decisions, I am likely to agree that may be done with respect to the interpretation of the code in its application, not that an appeal may be considered "moot" because a correction was made. Then, the problem expands, because such a "process" or "ideology" was adopted, through an improper case decision, when the TRB never had such authority with respect to the USBC or the IBSR--- then the bad case decision was never appealed to the court (a burdensome endeavor for most), it continues unchecked and repeated.

Should you wish, please feel free to provide any input to me regarding my questions that I would like posed because I do not wish to mischaracterize the basis for the questions. I think we all will benefit from an advisory opinion.

Milari Madison

The questions are:

These two question arose regarding the SBCAO's "decision" (*see* 13 VAC 5-91-70), not to pursue a code violation complaint filed with respect to the Virginia Industrialized Building Safety Regulations (2009), under the auspices that the company and persons, the subjects of the complaint, were "no longer in business". In actual fact, the company merely changed its name, some of the officers and persons still conducting business within the new company. The aggrieved party, the owner, filed an appeal seeking that the company and or the "person, firm or corporation" should be cited for code violations and be pursued under 13 VAC 5-91-00, in accordance with VA Code § 36-83. The SBCAO took the position that, due to the fact that the company was "out of business", which was false, that no action would be taken by the agency. The first question is: **Does the Technical Review Board have the authority to hear an appeal that alleges the SBCAO is mistaken, that the SBCAO does not have the authority to make such a determination with respect to the company, person, or firm's standing?**

As a companion question and by way of background @ § 36-114, the Review Board shall have the power and duty *to hear all appeals from decisions arising under application of the rules and regulations implementing the Industrialized Building Safety Law*. In the event that a code violation was corrected, in this case, under the direction of the owner, does the Technical Review Board have the authority to not hear the appeal, in essence declaring the issue "moot", or to take the appeal and declare it moot without a case decision. In other words, the second question is: **Did the General Assembly grant the Technical Review Board with the authority to not hear appeals because a violation has been rectified?**

From: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "jared@markobenshain.com" <jared@markobenshain.com>; Mark Obenshain <mark@markobenshain.com>; "delgreason@gmail.com" <delgreason@gmail.com>; "mmelis@oag.state.va.us" <mmelis@oag.state.va.us>; "Leatherby, Eric (DHCD)" <Eric.Leachery@dhcd.virginia.gov>; Chris Thompson <chris.thompson@loudoun.gov>; "Davis, Cindy (DHCD)" <Cindy.Davis@dhcd.virginia.gov>; "McMahan, Alan (DHCD)" <Alan.McMahan@dhcd.virginia.gov>; "district13@senate.virginia.gov" <district13@senate.virginia.gov>; "sjack@oag.state.va.us" <sjack@oag.state.va.us>; "Shelton, Bill (DHCD)" <Bill.Shelton@dhcd.virginia.gov>; "Rodgers, Emory (DHCD)" <Emory.Rodgers@dhcd.virginia.gov>
Sent: Thursday, December 13, 2012 8:16 AM
Subject: RE: Advisory Opinion from the A.G. regarding DHCD/TRB

Ms. Madison,

A ruling by the Review Board that an appeal was properly dismissed as moot has been reviewed by the Virginia Court of Appeals and upheld. While the issue was not that a violation had been corrected, but instead that a building official had refused to issue a certificate of occupancy, the issue of whether the Review Board has the authority to make such determinations and that its determination was correct has been adjudicated.

The Court of Appeals ruling is attached.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [<mailto:huntermadison2002@yahoo.com>]
Sent: Thursday, December 13, 2012 10:19 AM
To: Melis, Mike F.
Cc: Hodge, Vernon (DHCD); Alan (DHCD) McMahan
Subject: Re: Milari Madison appeal to the Review Board

Dear Mr. Melis,

Thank you for attending the meeting the other day and for your input. I have a few thoughts that I ask that you consider.

I am inclined to withdraw my appeal based on the November 19, 2012 letter from DHCD to Milton. I wonder if we can draft a brief agreement stating that my appeal is withdrawn predicated on the fact that DHCD appears to be taking action which is what I sought from the beginning?

I looked at the letter sent to DHCD regarding the status of Milton/Integrity from Mr. Rowe. I am unclear as to why the content appears to be an affirmative effort to misdirect the state. Further, according to my research, it appears that Milton or Integrity have never been certified in any way to conduct business in the Commonwealth of Virginia. This "check" is done on-line. I was further surprised that they would seek a "refund" for extra registration stickers when it was my understanding that the stickers, while they can be mailed to the mfr., that they are under the control of the CAA.

Last, I hope that you can send me any notification letter from NTA to DHCD that notified that NTA Inc entered into a contract with Milton or terminated a contract as required by the code, or confirm that the notification did not occur.

Feel free to call to discuss this if you so wish.

Milari Madison 540-882-3160

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Sunday, December 16, 2012 7:51 AM

To: Hodge, Vernon (DHCD)

Cc: jared@markobenshain.com; Mark Obenshain; delgreason@gmail.com; mmelis@oag.state.va.us; Leatherby, Eric (DHCD); Chris Thompson; Davis, Cindy (DHCD); McMahan, Alan (DHCD); district13@senate.virginia.gov; sjack@oag.state.va.us; Shelton, Bill (DHCD); Rodgers, Emory (DHCD); bob@delegatebob.com; DelJMay@house.virginia.gov; Randy@DelegateRandyMinchew.com; DelegateRobBell@embarqmail.com

Subject: Re: Advisory Opinion from the A.G. regarding DHCD/TRB

Dear Mr. Hodge,

Thank you for the attachment. I have read the attached decision and see no guidance with respect to the questions that should be presented to the A.G. for an advisory opinion.

The Miller appeal was dismissed by the court because it was a zoning matter in which the Millers failed to appeal from the beginning. **The court did not affirm or rule as to whether or not the TRB was given the authority by the G.A. to not hear appeals because a code violation was cured by a third party.** "The Review Board shall have the power and duty to *hear all appeals from decisions arising under application of the rules and regulations implementing the Industrialized Building Safety Law.*"

Further, the TRB does not have the authority to interpret case law or questions of law, but their authority is to hear all appeals. With respect to past case decisions, the use of such past decisions is based on the intent of the actual building code provision and that the intent of the code should be consistently applied by the TRB. The law provides for the criminal accountability of nefarious businesses and persons that violate the code, regardless of whether or not a violation was cured (even by an aggrieved party wishing to mitigate unsafe conditions). The TRB must act within the authority bestowed upon them by the General Assembly, not based on poor case decisions, including the TRB's own interpretation of laws, that were never appealed (a very burdensome enterprise).

As stated, the language within the Davis Letter, as provided to me is a dangerous "precedent" which should be rescinded in order to forego the appeal. The Davis Letter is based on the erroneous belief (advanced by the company to evidently mislead) that the company went out of business, when in fact it merely changed its name. Because the Davis Letter solicited an appeal, the SBCAO should rescind the letter as sent to me, and continue with the investigation regarding the complaint as they appear to be doing based on the November 19, 2012 letter sent to the president of the modular company. It should be noted that the company appears to never had, and does not have today, any certification or authority to do business in Virginia.

The attached Miller case, in pertinent part states:

"By focusing solely on appealing the denial of the certificate of occupancy, the Millers failed to appeal the revocation of their building permit, or to appeal the Zoning Administrator's ruling, or to seek a special exemption from the zoning requirements."

"The duty of this court as of every other judicial tribunal, is to decide actual controversies by a judgment which can be carried into effect, and not to give opinions upon moot questions or abstract propositions"

The three questions that need an Advisory Opinion from the A.G. are:

Background

These three question arose regarding the SBCAO's "decision" (*see* 13 VAC 5-91-70), *not to pursue* a code violation complaint filed with respect to the Virginia Industrialized Building Safety Regulations (2009), under the auspices that the company and persons, the subjects of the complaint, were "no longer in business". In actual fact, the company merely changed its name, some of the officers and persons still conducting business within the new company. The aggrieved party, the owner, filed an appeal seeking that the company and or the "person, firm or corporation" should be cited for code violations and be pursued under 13 VAC 5-91-00 in accordance with VA Code § 36-83. The SBCAO took the position that, due to the fact that the company was "out of business", which was false, that no action would be taken by the agency. The first question is: **Does the Technical Review Board have the authority to hear an appeal that alleges the SBCAO is mistaken, that the SBCAO does not have the authority to make such a determination with respect to the company, person, or firm's standing, as a basis to not perform duties bestowed upon the office?**

As a companion question and by way of background, @ § 36-114, it is stated that the Review Board shall have the power and duty to *hear all appeals from decisions arising under application of the rules and regulations implementing the Industrialized Building Safety Law*. In the event that a code violation was corrected, in this case, under the direction of the owner, does the Technical Review Board have the authority to not hear the appeal, in essence declaring the issue "moot", or to take the appeal and declare it moot without a case decision. In other words, the second question is: **Did the General Assembly grant the Technical Review Board with the authority to not hear appeals because a violation has been rectified?**

Third, under 13 VAC 5-91-30, the chapter is to designed to ensure "compliance with uniform statewide construction standards for industrialized buildings". The standards include compliance with "the manufacturer's instructions" under 13 VAC 5-91-270. Under 13 VAC 5-91-40, the SBCAO is "designated the administrator's representative for the enforcement of this chapter". The third question is: **Does the SBCAO have the authority to ensure that the manufacturer's installation instructions have been met in accordance with section 13 VAC 5-91-270 B?**

Thank you very much for your assistance in this matter.

Milari Madison

From: "Melis, Mike F." <mmelis@oag.state.va.us>
To: Hunter Madison <huntermadison2002@yahoo.com>
Cc: "Hodge, Vernon (DHCD)" <Vernon.Hodge@dhcd.virginia.gov>; Alan (DHCD) McMahan
<alan.mcmahan@dhcd.virginia.gov>
Sent: Wednesday, December 19, 2012 9:53 AM
Subject: RE: Milari Madison appeal to the Review Board

Ms. Madison -

If you have decided to withdraw your appeal, any written statement indicating why you have done so should come from you. The November 19, 2012, letter to Milton speaks for itself and sets forth the SBCAO's current position with regard to Milton. If you have any questions about the SBCAO's position, please call or e-mail me. Thank you.

Mike F. Melis
Assistant Attorney General
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219
(804) 371-7965
(804) 371-2087 (fax)

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Wednesday, December 19, 2012 4:39 PM
To: Melis, Mike F.
Cc: Hodge, Vernon (DHCD); McMahan, Alan (DHCD); Chris Thompson; Leatherby, Eric (DHCD)
Subject: Re: Milari Madison appeal to the Review Board

Mr. Melis,

I left a message on your voice mail to speak with you about the issue below.

Second, yesterday I spoke with Eric L. and Chris Thompson about which party will confirm that the house was *not* set per the manufacturers requirements under 13 VAC 5-91-270.

The setting function was to be performed by Milton in the event the contractor did not meet his obligations. Milton had staff at the site during the set and set folks to "finish" certain functions such as installing trusses and installing stairs. None of the persons were licensed or insured or authorized to do business in VA. The house is not bolted together.

The floors, at the junction areas are sagging and the wood is splitting, which makes me concerned that the house was not bolted at those locations at all and now concealed. The house is a three story per the definition of the code because the house plan shows the flooring installed at the third floor; there is sufficient head room; the stairs were to provided unrestricted access and are connected to the living area; Milton ran the smoke detector electrical line etc. They failed to weather proof it allowing for water. It had no guard rails around the stairs. No thermal envelop was delivered or created. No instructions for setting three story houses are included in the set instructions. Barlow engineering promptly corrected their document, now calling the space out as a third floor.

This definition is from the IBC 2009 handbook:

ATTIC. Several provisions apply to the attic area of a building, such as those relating to

ventilation of the attic space. In order to fully clarify that portion of a building defined as an

attic, Section 202 identifies an attic as that space between the ceiling beams at the top story

and the roof rafters. ~~An attic designation is appropriate only if the area is not considered~~

~~occupiable. Where this area has a floor, it would be defined as a story.~~ A common misuse of

terminology is the designation of a space as a habitable or occupiable attic. Such a

designation is inappropriate insofar as once such a space is utilized for some degree of

occupancy, it is no longer deemed an attic.

Loudoun says the state needs ensure the compliance with 13 VAC 5-91-270. Eric stated the compliance is a function for the County.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Friday, December 21, 2012 6:49 AM

To: Shelton, Bill (DHCD)

Cc: Leatherby, Eric (DHCD); Davis, Cindy (DHCD); Chris Thompson; Hodge, Vernon (DHCD); McMahan, Alan (DHCD)

Subject: Enforcement of IBSR, 13 VAC 5-91-270 (Mandamus)

Dear Mr. Shelton,

DHCD indicates that enforcement/compliance with 13VAC 5-91-270 is a function of the local building code official and the local building code official indicates that it is the function of DHCD. 13 VAC 5-91-40 states that the SBCAO is "designated as the administrator's representative **for the enforcement of this chapter and shall act as the building official for registered industrialized buildings.**"

Part of the mess--- Under 13 VAC 5-91-270, the industrialized house needs to be set per the manufacturer's instructions. Milton staff participated in the "set" and the contract and performance agreement we signed require Milton to complete the set (although it should be noted it was subsequently discovered they were and are not licensed to do so, nor do they appear to be certified to do business in VA per the SCC). The manufacturer's installation instructions are incorporated by reference as part of the data plate and were "approved" by the CAA. (Mr. Vernon Hodge was mailed a copy of the install procedures). NTA Inc. failed to notify the SBCAO that they signed a new contract with now Milton (13 VAC 5-91-40, inspection and enforcement. "The compliance assurance agency will notify the SBCAO within 30 days of signing a new contract...").

The instruction/procedure manual for the setting of my units does not include anything for a third floor nor a staircase terminating in the third floor as in this case. (It should be noted that a modular expert I have consulted with states the stairs to the third floor were installed at the factory which impacts code requirements, thermal envelope requirements, and design compliance under 13 VAC 5-91-250 @ 1).

This definition is from the IBC 2009 handbook incorporated as a standard in the IBSR at 13 VAC 5-91-160:

ATTIC. Several provisions apply to the attic area of a building, such as those relating to ventilation of the attic space. In order to fully clarify that portion of a building defined as an attic, Section 202 identifies an attic as that space between the ceiling beams at the top story and the roof rafters. **An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story.** A common misuse of terminology is the designation of a space as a habitable or occupiable attic. Such a designation is inappropriate insofar as once such a space is utilized for some degree of

occupancy, it is no longer deemed an attic.

My house came with an installed third floor, unfettered access to the third floor, an electric line for the third floor smoke detector, a light switch to the third floor, and ample headroom. Barlow Engineering performed certain calculations within the project and correctly calls the space a "third floor" (your staff has received a copy of their stamped engineered documents).

There are other significant deficiencies in the setting and procedure manual for the house, including that the units were not bolted together, easily visible in the basement. The house cantilevered over the foundation wall along "west wing" bump out. The manual does not allow for units that do not "line up" with the foundation...and the list continues.

Your staff appears to have adopted the position that they are not the authority that ensures compliance with 13 VAC 5-91-270 (setting per the manufacturer's instructions) even though 13 VAC 5-91-40 states that the SBCAO is "designated as the administrator's representative **for the enforcement of this chapter and shall act as the building official for registered industrialized buildings.**"

As the Administrator, can you kindly clarify whether or not you will direct your staff to ensure enforcement of 13 VAC 5-91-270? It would be reasonable that your staff ask NTA Inc. and Milton for setting procedures for three story modulars in order to meet compliance requirements under 13 VAC 5-91-270 and with respect to certifying that the data plate is accurate (or not).

Thank you for your assistance in this matter.

Milari Madison

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Saturday, December 22, 2012 8:31 AM
To: Leatherby, Eric (DHCD); Davis, Cindy (DHCD); Chris Thompson
Cc: Shelton, Bill (DHCD); Hodge, Vernon (DHCD); McMahan, Alan (DHCD)
Subject: Third floor, Stairway definition

Eric, Cindy, and Chris,

The stairway was installed and designed to provide unobstructed access to the third floor. The IRC and IBC have similar definitions for a stairway and its function. **Barlow Engineering correctly identified the house with a "third" floor.** The stairway, is shown in the plan, from the second floor to the third floor, continuous and without interruption, with 3/4" plywood designed and installed between the knee walls. NTA Inc. should be required to correct their "approved" plans, data plate certification, and approved manufacturer's installation procedures. NTA Inc. erroneously identified the house as being code compliant and a "two-story", when in fact it is a three story.

IBC Chapter 10

STAIRWAY. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage **from one level to another.**

This definition is from the IBC 2009 handbook:

ATTIC. Several provisions apply to the attic area of a building, such as those relating to ventilation of the attic space. In order to fully clarify that portion of a building defined as an attic, Section 202 identifies an attic as that space between the ceiling beams at the top story and the roof rafters. **An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story.** A common misuse of terminology is the designation of a space as a habitable or occupiable attic. Such a designation is inappropriate insofar as once such a space is utilized for some degree of occupancy, it is no longer deemed an attic.

McMahan, Alan (DHCD)

From: Hunter Madison [huntermadison2002@yahoo.com]
Sent: Saturday, December 29, 2012 8:23 AM
To: mmellis@oag.state.va.us; Leatherby, Eric (DHCD); Davis, Cindy (DHCD)
Cc: Hodge, Vernon (DHCD); McMahan, Alan (DHCD); Shelton, Bill (DHCD); Chris Thompson; Rodgers, Emory (DHCD)
Subject: Third floor, Stairway definition (see Figure 13)
Attachments: Scan.pdf

The Integrity Installation Systems and Procedures For Setting Modular Housing, approved by NTA Inc. "Feb. 02, 2010", Figure 13 (as mailed to Vernon Hodge and attached hereto), delineates "critical area of set (stairs)" and "proper stair alignment for two-story unit". The drawing *FURTHER* shows that the stairs were installed at the factory. The stairs were designed, as approved by NTA Inc. to provide unfettered access to the third floor. This is a design failure that fails to comply with the code 13 VAC 5-91-250 which states "the design of the building has been found by a compliance assurance agency to be in full compliance with this chapter". NTA Inc., selected by DHCD as "specially qualified" erroneously certified compliance. The duty of the interpretation of a third floor does not apply; it is clear and unambiguous. 13 VAC 5-91-160 "the 2009 editions of the International Codes are incorporated by reference as the construction standards for use with these regulations". The space was never restricted by NTA Inc. or Milton to being "unfinished attic space" without access, but with a smoke detector.

The stairway was installed and designed to provide unobstructed access to the third floor. The IRC and IBC have similar definitions for a stairway and its function. **Barlow Engineering correctly identified the house with a third floor.** The stairway, is shown in the plan, from the second floor to the third floor, continuous and without interruption, with 3/4" plywood designed and installed between the knee walls. NTA Inc. should be required to correct their "approved" plans, data plate certification, and approved manufacturer's installation procedures. NTA Inc. erroneously identified the house as being code compliant and a "two-story", when in fact it is a three story. Second, a house designed with a set of stairs that do not have adequate headroom, does not meet code.

IBC Chapter 10

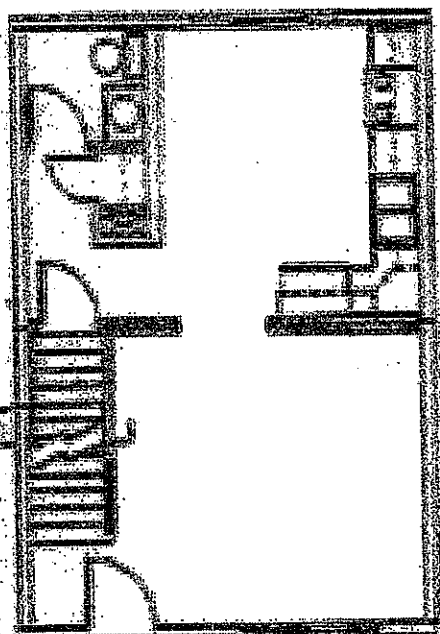
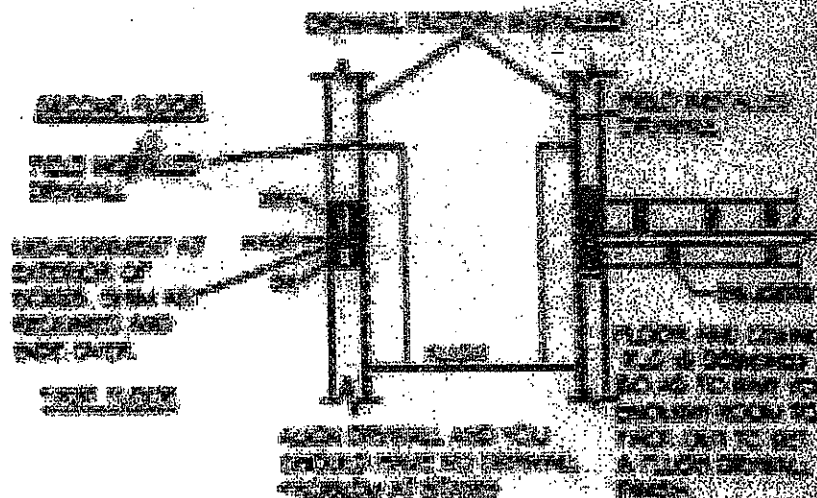
STAIRWAY. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

This definition is from the IBC 2009 handbook:

ATTIC. Several provisions apply to the attic area of a building, such as those relating to ventilation of the attic space. In order to fully clarify that portion of a building defined as an attic, Section 202 identifies an attic as that space between the ceiling beams at the top story and the roof rafters. **An attic designation is appropriate only if the area is not considered occupiable. Where this area has a floor, it would be defined as a story.** A common misuse of terminology is the designation of a space as a habitable or occupiable attic. Such a designation is inappropriate insofar as once such a space is utilized for some degree of occupancy, it is no longer deemed an attic.

In addition, the roof truss system was not installed/engineered properly (the installation function was Milton's obligation under the Performance Agreement) resulting in a roof roll. One quote from H.I.S. Construction estimates the repair at \$75,000. The ceilings on the second floor continue to crack and buckle.

Although NTA Inc. affirmed to DHCD that "all complaints will be resolved", this complaint has not been resolved.



THE UNIVERSITY OF CHICAGO

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FOOTER STATEMENT
FOOTER STATEMENT

- SECRET

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From: Hodge, Vernon (DHCD)

Sent: Friday, January 04, 2013 4:27 PM

To: Davis, Cindy (DHCD)

Cc: Melis, Mike F.; Hunter Madison; Gina Schaecher; Chris Thompson; McMahan, Alan (DHCD)

Subject: RE: Status of Madison Appeal

We need to copy all involved in the appeal in any correspondence. The last IFF identified the only issue in Ms. Madison's appeal as the statement by the SBCO about not being able to take any action against Integrity since they were out of business. That statement has now been modified, so Ms. Madison was going to review the SBCO's new position to see if it would enable her to withdraw her appeal. She corresponded with Ms. Melis asking for an agreement to be drafted and Mr. Melis responded that the SBCO's current position stands on its own.

Ms. Madison stills need to decide whether she is going to withdraw the current appeal. Depending on her response, Review Board staff will decide if there's anything to do.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [<mailto:huntermadison2002@yahoo.com>]

Sent: Saturday, January 05, 2013 8:38 AM

To: Hodge, Vernon (DHCD); Davis, Cindy (DHCD)

Cc: Melis, Mike F.; Chris Thompson; McMahan, Alan (DHCD); GSchaecher@reesbroome.com; Ralph Rinaldi; Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Leatherby, Eric (DHCD); sjack@oag.state.va.us; Steve Rodgers

Subject: Re: Status of Madison Appeal

Please know that I am grateful that the SBCAO has sent the November 19, 2012 letter to Milton.

The appeal was solicited from the SBCAO and affirmed as necessary by Emory Rodgers on August 29, 2012 ("Ms. Davis has responded to you on these matters. The due process is for you to appeal her decisions to the State Technical Review Board"). The November 19, 2012 correction letter only addresses a limited issue, not the many problems/violations, and is addressed to Richard Rowe. I have been harmed by the decision by the SBCAO to *not* take action and the appeal was necessary, otherwise it is a thing decided and I am without recourse.

Under § 36-114, it is stated that the Review Board shall have the **duty to hear all appeals** from decisions arising under application of the rules and regulations implementing the Industrialized Building Safety Law.

Relying upon apparently erroneous information provided by Milton, through Richard Rowe, and contrary to two letters from lawyers and documentation provided from the PA State Corporation Commission, the SBCAO took the position that they would not take action because the "company was out of business". This failure to act, because the "company was out of business", was without authority granted by the General Assembly and contrary to 13 VAC 5-91-60. "In accordance with § 36-82 of the Code of Virginia, whenever the administrator shall find any violation of this chapter, he shall order the person responsible therefor (typo) to bring the building into compliance within a reasonable time, to be fixed in the order. In addition, as a requirement of this chapter, the administrator may request assistance from the building official for enforcement of this section."

The plans, as erroneously certified by the CAA in violation of 13 VAC 5-91-250, do not meet building code. The professional and "specially qualified" parties knew that there was a "problem" with the stairs, concealed this fact, and willfully delivered and set the house anyway without any plan to bring the house into compliance.

As to whether or not the TRB has the authority to "not hear an appeal because a code violation has been remedied", or in this case that the SBCAO has issued a limited correction notice/inquiry, is the partial subject of a request for an advisory opinion that will be submitted by a state senator as planned for at the end of February 2013. The TRB has the **"duty" to hear all appeals**. Any reliance upon previous case decisions is limited to

the meaning and intent of the building code section, nothing more. The SBCAO needed to write up the violations per 13 VAC 5-91-60 but elected not to.

I do appreciate the fact that the SBCAO has decided to take some action with respect to the stairways (STAIRWAY. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage **from one level to another**). However, it remains concerning that the CAA, to my knowledge, has not yet been cited that the design does not meet code (13 VAC 5-91-250), the SBCAO has no notice that NTA Inc. is/was the CAA for Milton (13 VAC 5-91-40 at B), the CAA affirmed that all complaints will be "fully resolved" but has not done so (13 VAC 5-91-200 at 6), the manufacturer's data plate remains incorrect for the square footage, R value, and electrical system (13 VAC 5-91-245), the house was not set per the manufacturer's installation instructions (13 VAC-91-270), and that unlicensed Milton staff entered the house, demolished the wall along the stairs to the third floor without any permit or written permission (103.5 Reconstruction, alteration or repair, causing the structure to become more unsafe or lower existing levels of health and safety).

Should Mr. Melis advise that his client's position stand on its "own", due process requires that the TRB must "hear all appeals". The TRB should find that the SBCAO has no authority under the code to *NOT* take action because a company "is out of business".

Respectfully,

Milari Madison

From: Hodge, Vernon (DHCD)
Sent: Monday, January 07, 2013 8:19 AM
To: 'Hunter Madison'; Davis, Cindy (DHCD); Gina Schaecher; Chris Thompson
Cc: Melis, Mike F.
Subject: RE: Status of Madison Appeal

Parties and counsel:

Based on the response below by Ms. Madison, Review Board will draft a staff document outlining Ms. Madison's issues as well as identifying the jurisdiction issues discussed at the informal fact-finding conferences. The staff document will be distributed to the parties for review and comment and we will establish a timeframe for the submittal of additional documents or written arguments. A hearing will then be scheduled before the Review Board. The hearing will be tentatively scheduled for March 15, 2013.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [<mailto:huntermadison2002@yahoo.com>]

Sent: Tuesday, January 08, 2013 11:20 AM

To: Hodge, Vernon (DHCD); Davis, Cindy (DHCD)

Cc: Melis, Mike F.; Ralph Rinaldi; Gina L. Schaecher; Chris Thompson; sjack@oag.state.va.us; Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Leatherby, Eric (DHCD); McMahan, Alan (DHCD)

Subject: Request to Subpoena Records

Dear Mr. Hodge,

The more experts I have look at this building, the more problems are identified.

According to Mr. Melis, NTA Inc. did not notify DHCD that they would provided services to Integrity/Milton (a violation of 13 VAC 5-91-40 @ B). If it is the intent of this process to cure the problems, I remain grateful and therefore state as follows:

It is reasonable for the Review Board to subpoena (as provided for in the law) the factory production records for the third floor, that will show the trusses, design, production documents of the third/floor attic, heights, installation of the plywood in the third floor between the knee walls, knee wall placement (which differs from the plan provided to the county and was a definitive decision made by engineering or Milton), insulation installation (R value), location of smoke detector, the light switch/electric to the third floor, and all inspection records of the units and approved production process from NTA Inc (to build three stories/habitable attic spaces) and from Milton. The builder/McNutt mentioned to me that there was a problem with the stairs to the third floor. The company knew of the "problem" and shipped the units anyway. The records required should show whether or not the stairs/units were inspected by NTA Inc., whether the infractions as noted through the Milton's inspection reports were corrected, and whether or not the stairs were installed on-site or at the factory (see 13 VAC 5-91-250 2).

The production documents should be requested with regard to the insufficient head clearance height from floor one to floor two. How can the engineering/production documents as compared to the inspection documents be that off, causing a code violation?

The production documents should be included to show how the channel steel beam was affixed to the board holding up the family room (it appear to be a few screws) and whether or not the steel channel was predrilled as there are no bolts installed as called for in the installation manual and on the foundation plan. This process must have been approved of by NTA Inc., under 13 VAC 5-91-270 and 13 VAC 5-91-245 10).

Thank you for your assistance.

Milari Madison

From: Hodge, Vernon (DHCD)
Sent: Tuesday, January 08, 2013 2:14 PM
To: Hunter Madison
Cc: Davis, Cindy (DHCD); Melis, Mike F.; Gina Schaecher; Chris Thompson; McMahan, Alan (DHCD)
Subject: RE: Request to Subpoena Records

Ms. Madison,

Only the Review Board can make a decision as to whether any records need to be subpoenaed for an appeal situation and that can only occur at a hearing. You can address that issue with the Review Board at your hearing and if they agree that records that you couldn't obtain are necessary or relevant for the issue or issues under appeal, then they may decide to continue the hearing to issue the subpoena.

Vernon Hodge, CBO, Technical & Code Development Specialist and Secretary, State Technical Review Board
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]

Sent: Thursday, January 10, 2013 7:26 AM

To: Thompson, Chris

Cc: Judy (DPOR); Sherell (DPOR); "apelscidla@dpwr.virginia.gov"; Cindy (DHCD) Davis; Eric (DHCD) Leatherby; Bill; Gina Schaecher; Ralph Rinaldi; Emory; Vernon (DHCD) Hodge; Alan (DHCD) McMahan

Subject: Engineering (Milton/Integrity/NTA Inc)

Dear Mr. Thompson,

Can you let me know if the plans provided to the county for the modular construction, as submitted by NTA Inc., bear the "signed imprint of the seal" licensed professional engineer as required under 9VAC25-790-160?

The foundation plan and load calculation confirmation that were provided to me by Richard Rowe/Integrity, do not appear to contain such a stamp so I have asked DPOR to look at this. It then caused me to ask whether or not NTA Inc. actually stamped the plans because the copy I have at home does NOT bear the seal.

Milari Madison

540-882-3160

From: Thompson, Chris [mailto:Chris.Thompson@loudoun.gov]

Sent: Thursday, January 10, 2013 9:12 AM

To: Hunter Madison

Cc: Duff, Judy (DPOR); Queen, Sherell (DPOR); DPOR: Board for Architects, Professional Engineers Land Surveyo (DPOR); Davis, Cindy (DHCD); Leatherby, Eric (DHCD); Shelton, Bill (DHCD); Gina Schaecher; Ralph Rinaldi; Rodgers, Emory (DHCD); Hodge, Vernon (DHCD); McMahan, Alan (DHCD)

Subject: RE: Engineering (Milton/Integrity/NTA Inc)

Mrs. Madison,

The construction documents do not bear a licensed professional engineer seal.

Chris Thompson

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Additional Documents Submitted by Madison

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McMahan, Alan (DHCD)

From: Hodge, Vernon (DHCD)
Sent: Monday, February 25, 2013 11:52 AM
To: McMahan, Alan (DHCD)
Subject: FW: Madison supplement as permitted by January 30, 2013 letter, #12-05
Attachments: Madison supplement to Board 12-5.pdf

Vernon Hodge, CBO, Technical & Code Development Specialist
State Building Codes Office
Division of Building and Fire Regulation
Va. Department of Housing and Community Development
Direct Dial: (804) 371-7174
Email: Vernon.Hodge@DHCD.virginia.gov

From: Hunter Madison [<mailto:huntermadison2002@yahoo.com>]
Sent: Monday, February 25, 2013 11:46 AM
To: McMahan, Alan (DHCD); Hodge, Vernon (DHCD); sjack@oag.state.va.us; Chris Thompson; Davis, Cindy (DHCD); Leatherby, Eric (DHCD); Shelton, Bill (DHCD); Rodgers, Emory (DHCD); Steve Rodgers; mmelis@oag.state.va.us
Cc: Ralph Rinaldi; GSchaecher@reesbroome.com
Subject: Madison supplement as permitted by January 30, 2013 letter, #12-05

Dear Mr. McMahan,

Attached, please find my supplement that I wish to have included in the appeal to the Board.

Thank you for your assistance.

Milari Madison

Milari Madison
40153 Janney Street
P.O. Bo 302
Waterford, VA 20197
540-882-3160

IN THE APPEAL OF MILARI MADISON TO THE REVIEW BOARD, Ms. Madison states the following:

The appeal was initiated because Ms. Cindy Davis/DHCD erroneously took the position, allegedly based on information provided to her from Milton, Richard Rowe, that the company was no longer in business. In fact, the company only changed its name, and regardless of a name change only, a correction notice may be sent to the responsible party. The Davis letter stated that Ms. Madison had to appeal the letter, or it was a thing decided and no other procedural redress exists. "The Review Board shall have the power and duty *to hear all appeals from decisions arising under application of the rules and regulations implementing the Industrialized Building Safety Law.*"

PARTIES

Milari Madison is an individual and the owner of the property located at 40153 Janney Street, Waterford, VA 20197.

Milton Home Systems, Inc., f/k/a Integrity Building Systems, Inc. ("Milton") is a Pennsylvania corporation with its principal place of business at, or formerly at, 2435 Housels Run Road, Milton, PA 17847. At all times relevant to the Complaint, Milton was a manufacturer of modular buildings and performed on-site installation and services, unlicensed in Virginia.

Darren McNutt is an individual and on information and belief does business under name Convenient Installations with his principal place of business at 371 McKinnon Dr., Kilgore, TX

75662. Mr. McNutt's previous address was 351 Thistle Ridge Ln, Ranson, WV 25438. Mr. McNutt positioned himself as an experienced builder that sets modular houses and a sales agent of modular houses manufactured by Milton. A misdemeanor conviction has been secured by the Virginia Department of Professional and Occupational Regulation ("DPOR") with respect to his unlicensed performance in the instant matter.

It remains improper that Mr. Vernon Hodge has selectively omitted NTA Inc. as a party when even DHCD requested that NTA Inc. be noticed as a party.

From: Leatherby, Eric (DHCD)
Sent: Monday, September 17, 2012 3:40 PM
To: McMahan, Alan (DHCD)
Cc: Davis, Cindy (DHCD); Hodge, Vernon (DHCD); Rodgers, Emory (DHCD)
Subject:

Please notify NTA of the upcoming IFF and TRB hearings. Ms. Madison has made many references to them in her e-mails to us and in her formal complaint. She feels they are directly responsible for the problems in her home.

NTA, Inc.
Mr. Eric Tompos, P.E.
305 North Oakland Ave.
P.O. Box 490
Nappanee, IN 46550

Thank you.

NTA, Inc. ("NTA") is an Indiana corporation with its principal place of business at 305 North Oakland Avenue, PO Box 490, Nappanee, IN 46550. NTA is a compliance assurance agency that is required to comply with the Uniform Statewide Building Code ("USBC"), DPOR regulations, the regulations promulgated by the Virginia Department of Housing and Community Development ("DHCD"), the Industrialized Building Safety Regulations ("IBSR"), the Virginia

Consumer Protection Act ("VCPA"), and other applicable Virginia law ¹. NTA conducted the compliance assurance functions, including but not limited whether the modular home manufactured by Milton complied with the USBC and other applicable codes and regulation, with respect to the house manufactured by Milton².

Martin Sickle is an individual that identified himself as an "owner" of Integrity Business Systems (now Milton), assisted in the design of the house, facilitated the engineering, made representations related to the high quality and manufacturing standards of the product and the "rigorous" oversights of the compliance assurance agency (NTA Inc.), acted as the sales agent, performed sales visits to Loudoun County, inspected the site, provided a factory tour, provided assurances of the Milton's solvency, negotiated the majority of the details of the transaction, provided design plans and recommendations and oversaw changes, signed the Performance Agreement, and further induced Ms. Madison into signing the Modular House Contract by providing a pre-payment discount and other promises on behalf of Milton.

FACTUAL BACKGROUND

1. The Virginia Department of Housing and Community Development (DHCD) promulgates regulations for industrialized buildings, often referred to as modular buildings, through the Industrialized Building Safety Regulations (IBSR). The IBSR provides for the administration and enforcement of uniform, statewide standards and includes the model codes and standards that industrialized buildings must meet. Industrialized buildings (IB) are built in a factory and may contain concealed components, such as structural systems, wiring, plumbing and mechanical ductwork to mention a few. The State Building Code Administrative Office (SBCAO) is the Building Official for IB's. The SBCAO accredits third-party Compliance Assurance Agencies (CAA) to review designs, inspect construction and certify the buildings through the application of a Virginia Registration Seal. The performance of the CAA is typically monitored by DHCD.

2. 13 VAC 5-91-40 requires that the compliance assurance agency will notify the SBCAO within 30 days of signing a new contract or terminating an existing contract with any manufacturer. Ms. Madison requested a copy of NTA Inc's compliance with this requirement prescribed by legislature and was advised by Mr. Melis that the document does not exist.

In May of 2011, Ms. Madison entered into two associated contracts for the manufacture and installation of a modular home at 40153 Janney Street, Waterford in Loudoun County Virginia. The Contract For the Modular House # C-484709, dated May 5, 2011, was entered into by Ms. Madison and Darren McNutt d/b/a Convenient Installation (“builder” and “contractor”), who was acting in the capacity of sales and installation agent for Milton, for the manufacture and installation of a modular home (the “Modular House Contract”). Contemporaneously with the Modular House Contract, Milton entered into a Performance Agreement with Ms. Madison (the “Performance Agreement”) guarantying Darren McNutt’s performance under the Modular House Contract. Additionally, Mr. Martin Sickle acted as the sales agent for Milton negotiating a substantial discount incentive to enter the sales contract and the Performance Agreement (signed on May 4, 2011), utilized as an inducement to enter the contract.

Darren McNutt d/b/a Convenient Installation represented to Ms. Madison as an inducement to enter into the Modular House Contract that he was “licensed and insured.” Darren McNutt d/b/a Convenient Installation was in fact not licensed in Virginia and not insured. Ms. Madison was first told by Milton that Mr. McNutt was neither licensed or insured in Virginia.

Milton was uninsured, unlicensed, and not certified to conduct business, or to perform services as stated, provided, and obligated to Ms. Madison.

The Modular House Contract *inter alia* provided that: (i) the house would be delivered within four to six weeks after approval and/or receiving of the final prints and receipt of payment; (ii) Convenient Installation/Milton were responsible for the accurateness and completeness of the house plans; and (iii) that the modular units would be bolted together in the basement and fastened to the sill plate and that the panelized roof sections and sun room panels would be installed. Modular House Contract at paragraph 2.

The Modular House Contract provided a structural warranty and a warranty that the obligations under the Modular House Contract would be performed in a good and workmanlike manner and in accordance with best industry practices. Modular House Contract at paragraph 5.

The Modular House Contract provided that should Darren McNutt d/b/a Convenient Installation fail to timely perform, Milton would satisfy the McNutt d/b/a Convenient Installation's obligations under the Modular House Contract. Modular House Contract at paragraph 6.

The Performance Agreement provided that should Darren McNutt d/b/a Convenient Installation fail to materially perform its obligations, Milton would perform those obligations. Performance Agreement at paragraph 1.

At the time the Modular House Contract and the Performance Agreement were signed, and the drawings for the manufacture of the house had been agreed upon, Ms. Madison wire transferred \$254,239. This amount, plus a \$4,500 drawing fee to be applied for the "stamped" house drawings created by Milton, and stamped as code compliant by NTA Inc., brought the total paid for the house to \$258,739.

During the house drawing and specification period, Darren McNutt moved. Ms. Madison continued to work with Mr. McNutt but also directly with Milton and Mr. Martin Sickle.

By email dated May 6, 2011, Mr. Martin Sickle notified Ms. Madison that Milton had received payment under the Modular House Contract and asks, "when can we deliver your house".

According to the Modular House Contract, the modular units were to be manufactured, delivered and installed by the end of June 2011. The modular units were not delivered until July 18, 2011 to the "staging area".

Ms. Madison was informed that there was a "problem" with the stairs from the second floor going to the third floor. Although the stairs were to be designed to be generous in proportion, 4 feet in width, to provide access to the third floor living space (a significant portion of the overall living space of the house), the stairs dead-ended into the roof line, cannot be used as access to the third floor and fail to meet building code.

From: Hunter Madison <huntermadison2002@yahoo.com>
To: MartyS@integritybuild.com
Sent: Thursday, July 14, 2011 4:45 PM
Subject: stairs

Marty,

I ran into Darren at the lot. He told me about the stairs. Maybe you can make a square circular stair that they may have had in older houses. I have contacted a company called Duvinage in Hagerstown, MD. Their telephone number is 800-541-2645.

Milari

It should be noted, that Barlow Engineering, that performed various calculations in this project, corrected the engineered drawing by properly calling out the house as three-stories.

----- Forwarded Message -----

From: Mark Neal <mneal@barlow-engineering.com>
To: 'Hunter Madison' <huntermadison2002@yahoo.com>
Cc: Chris.Thompson@loudoun.gov
Sent: Friday, November 16, 2012 12:36 PM
Subject: RE: Madison house

Mrs. Madison & Mr. Thompson,

Attached is a revised copy of the shearwall calculations we provided to IBS for the C-484709-2 plan. The only revision we made was on the Main House summary sheet showing the roof as a 3rd floor. The calculations were done correctly originally but we didn't call the habitable attic a floor.

I trust this will clarify our portion of the design and I wish you the best in resolving your issues.

Please contact our office with any questions or comments.

Thanks,

Mark Neal
Barlow Engineering, P.C.
6612 Six Forks Rd.
Suite 104
Raleigh, NC 27615
(919) 845-1600

Milton assured Ms. Madison that they would rectify the matter, but did not do so, breaching warranty and the Virginia Consumer Protection Act.

The stairs were designed, manufactured for placement in the modular boxes and installed in violation of the building code. As designed, built, set, and delivered the third floor living space could not be safely or reasonably accessed, the area around the second floor stairs could not be finished, the hole in the ceiling created by the deficient stairs allowed heat to escape in a portion of the house that could not be used, as no thermal envelop was created as required under the Contract or set procedures, the house has not been bolted together per the set instructions, the ceilings and walls continue to crack, the incorrect window sizes have not been replaced, floors are not level, doors are buckling, and Ms. Madison remains without a permanent occupancy permit.

Temporarily returning for the installation the house on the foundation, after two days, Mr. McNutt abandoned the project. Many of the aspects of the house remained uninstalled, not fully installed or improper, including but not limited to the application of a partial roof tarp, fastening the boxes together, proper installation of the roof panels, failure to level boxes, soffits and fascia so the metal roof could be installed, and ensuring that the structure weather tight.

Mr. McNutt and Milton's own on-site staff failed to follow Milton's installation procedures as approved of by NTA Inc., and the manufacturer guidelines to install weather proof tape where the roof panels met and where puncture holes were where created by the crane, and the manufacturer's guidelines for the fire places and chimney, all a violation of the USBC and IBSR.

Prior to signing the Modular House Contract, Ms. Madison was repeatedly told by both Mr. McNutt and Mr. Sickle that, with respect to the house interior, that she would be responsible for "minimal drywall repair at the marriage sites", and that a plumber and electrician would need to perform "minimal" connections "in the basement", about a "half-day". The reality was something quite different. The house failed to meet building code as delivered from the factory and as a failure to set in accordance with the law.

Milton, through Mr. Sickle, represented that as installed the house would be weather tight³. This is extremely important for modular houses because the interior walls and ceiling are delivered finished and, therefore, water cannot be allowed into the house. Every time it rained, water poured into the house, including over and the through the finished walls and ceilings. As mildew set in, as part of the remediation, Ms. Madison had to remove and replace the house insulation, and repair extensive water damage. Milton knew that the water was entering the house and took little affirmative action.

After Darren McNutt abandoned the house installation without completion, it became clear that the house as manufactured by Milton contained substantial defects and/or was not

3. Pursuant to VA Code, section, § 36-106. It shall be unlawful for any person, firm or corporation, on or after the effective date of any Code provisions, to violate any such provisions. Any such violation shall be deemed a misdemeanor. Within this context, "Decent, safe, and sanitary dwelling" includes, in part, that a dwelling "is weather tight".

constructed in conformance with the building code, or in accordance with the approved plan.

Ms. Madison called upon Milton under the Performance Agreement to complete the installation of the house and to rectify the manufacturing defects and building code violations. Ms. Madison also called upon NTA Inc. Milton through Mr. Sickie and subsequently through Richard Rowe, repeatedly promised to cure certain defects, but in fact did very little in a beneficial manner to cure the defects and the building code violations with little to no communication even though full payment had been extended⁴.

Milton sent unlicensed workers to the sight several times. These visits were often weeks apart and without notice. During this time and at no time, would Milton commit to providing the resources necessary to complete the installation of the house and to cure the defects, including the items that did not comply with the building code and the deviations from the approved plan.

These visits, often after regular business hours and into the night (Ms. Madison now believes that the reason for working after business hours was so that Milton could avoid the Loudoun County building officials because they were not licensed in Virginia nor did they obtained required permits), did not yield any significant improvement in the status of the house with the work appearing rushed and poorly executed. On one evening, without notice, Ms. Madison discovered the Milton crew in the house after they had demolished, without permission, a wall from the second floor to the third floor along the staircase⁵. Without written approval, the Milton crew was attempting to create a hole for a spiral staircase to the third floor only to

4. In *Rader 15 Va. App. at 330, 423*, the Court held that a "general lack of communication with the homeowners" is probative of fraudulent intent.

5. In accordance with § 36-99 of the Code of Virginia and in accordance with the USBC, the installation or erection of industrialized buildings and alterations, additions, or repairs to industrialized buildings are regulated by the USBC. Further, work performed at the Ms. Madison's property required a permit that Milton failed to obtain.

discover that it would not “work” as engineered and worked upon ⁶. The Milton crew simply walked away from that project leaving additional hazardous conditions as a result of their unauthorized demolition, including dangling “hot” electrical wires, demolition debris, and a void to the first floor without any rail installed, creating additional code violations ⁷.

In spite of empty promises, around this time and after waiting weeks and months for Milton to cure the defects, during which time Milton apparently sold a substantial portion of the assets of the business, Ms. Madison sought DPOR’s assistance only to find that neither Convenient Installation nor Milton were licensed in Virginia. Ms. Madison also learned (was told by Milton’s counsel) that insurance carried by Milton would “not” cover damages and losses, nor did any structural “warranty” exist as called for within the Contract ⁸. After Milton learned that the Ms. Madison made inquires to DPOR and learned that Milton was in fact not licensed in Virginia, contrary to misrepresentations relied upon, on November 1, 2011, Mr. Richard Rowe of Milton e-mailed Ms. Madison and stated that “We can no longer provide service, since you brought it to the attention of the state that the builder you bought the home from was not licensed ...” In fact, Milton never had any intention of standing behind the Contract through the Performance Agreement, in part because they were not able to under the law, *ab initio*. The language Milton used in order to induce Ms. Madison into signing the Contract, was predicated on an obligation contrary to the law.

6. Found in *Rader*, 15 Va. App. at 330, 423 S.E.2d at 210, failure to apply for a permit gives rise to an inference of fraudulent intent.

7. The USBC, section 103.5, Reconstruction, alteration or repair, states: “The following criteria is applicable to reconstruction, alteration or repair of buildings or structures: 1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.”

8. Through discovery, Ms. Madison located three pages of a multi-page warranty registration document upon which her name is forged.

On December 8, 2011, Ms. Madison contacted DHCD directly for assistance. In April 2012, DHCD came for a site visit.

----- Forwarded Message -----

From: Hunter Madison <huntermadison2002@yahoo.com>
To: "Larry.brock@dhcd.virginia.gov" <Larry.brock@dhcd.virginia.gov>
Cc: "chris.thompson@loudoun.gov" <chris.thompson@loudoun.gov>
Sent: Thursday, December 8, 2011 6:35 AM
Subject: Integrity Building Systems, Icon Legacy

The house is not eligible for a permanent occupancy permit because of the building code defects manufactured into the house by Milton and as approved of by NTA Inc⁹.

With respect to NTA Inc, having approved the Milton manufactured modular house permit documents, process and procedures, providing an erroneous Electrical Load Calculation, and erroneously certifying that the house meets applicable building code, NTA failed to perform its obligations under the law and to the substantial detriment of Ms. Madison.

As a direct cause of NTA, Inc's failure to ensure that the design met applicable code consistent with the IBSR and other Virginia law including those adopted under 13 VAC 5-91-160, use of model codes and standards, and falsely stating otherwise by applying conformance stickers, Ms. Madison alleges that NTA Inc. is negligent and a party in the matter.

NTA Inc. violated law, duty, and statutes and regulations enacted for public safety and protection. Ms. Madison is a member of the class for whose benefit the legislature enacted statutes and regulations to protect. Ms. Madison paid a fee as a line item in the product quote for approved drawings, certification stickers and engineering seals for NTA Inc's goods and services. The statutory violation is a proximate cause of injury. The IBSR, 13 VAC 5-91-30, is in place to

9. By letter dated November 19, 2012 sent from DHCD to Mr. Richard Rowe of Milton, DHCD sites the headroom violations from the stairs from the "first floor to the second floor" and from the "second floor to the third floor/attic", violating Sections R311.7.2 and requests a "plan of corrective action".

“ensure safety to life, health, and property through compliance with uniform statewide construction standards for industrialized building”. Ms. Madiosn relied upon the services of NTA Inc., a Compliance Assurance Agency, for the units, plans, manufacturing procedures, installation procedures, and label stickers. NTA Inc. supplied defective and insufficient services, defective design plans and permit documents, defective and insufficient inspection and certification of the product, factory and process, as relied upon by Ms. Madison to cause injury¹⁰.

NTA Inc. is a “Compliance assurance agency” defined under 13 VAC 5-91-10 meaning a “professional engineer registered in Virginia, or an organization, determined by Department of Housing and Community Development to be *specially qualified* by reason of facilities, personnel, *experience*, and demonstrated reliability, to investigate, test and evaluate industrialized buildings; to list such buildings complying with standards at least equal to this chapter; to provide adequate follow-up services at the point of manufacture to ensure that production units are in full compliance; and to provide a label as evidence of compliance on each manufactured section or module.” In Virginia, the standard for professional negligence is the failure to exercise the standard of care of those ordinarily skilled in the industry. Held out as “specially qualified”, NTA Inc, in certifying and preparing plans and drawings for Ms. Madison , and failing to comply with applicable legislation, failed to exercise skill, ability, and judgment.

The IBSR, section 13 VAC 5-91-250, requires NTA Inc. to affirm under oath that the “design” of the building meets code and by affixing a Virginia registration seal thereby attesting

10. Found in the Virginia Circuit Court for the City of Norfolk Memorandum Opinion, Entered 3-2010, Civil Docket Nos. CL09-3105 et al. All Pending Chinese Drywall Cases, the Honorable Mary Jane Hall ruled that the Plaintiff’s pleading met the standard for the negligence per se claim, and the Court allowed the claim to go forward on the basis of alleged building code violations. Further, in *McGuire v. Hodges*, 273 Va. 199,206, 639 S.E. 2d 284, 288 (2007), the Court confirmed that a plaintiff may properly refer to the building code for the required statutory violation.

to full compliance, including the testing and evaluation of the building and component parts ¹¹. Ms. Madison foreseeably relied and acted upon the professional's work product, including the certification that the building design was "code compliant". The house is not eligible for a permanent occupancy permit because the house design and plan was defective. Due to NTA Inc's negligence, Ms. Madison did not "get" what was bargained for and the product does not meet its intended purpose, to serve as a single-family residence with specified requirements. NTA Inc. is a regulant of DHCD and must be held responsible as provided for in the code.

Ms. Madison cannot offer the dwelling for sale. Virginia Code § 36-78 prohibits a person from offering for sale such a building unless it conforms with said rules and regulations. The house cannot be offered for sale, is a damaged asset and encumbers the underlying real estate within a historic district with significant restrictions on demolition and exterior alterations.

Virginia Code § 36-79 requires that any industrialized building shall be deemed to comply with the standards of the Board when bearing the label of a compliance assurance agency, an affirmation that the dwelling meets code and does not pose a hazard to the safety and welfare of the public. NTA Inc. was notified that the building failed to meet code, although erroneously affirmed that the design of the house met code, turned a willfull blind eye with complete disregard to the obligations and duties owed to the Ms. Madison as prescribed by the statute. ¹². NTA Inc. represented as true what is really false, in such a way as to cause any

11. By e-mail dated November 5, 2012, Mr. Mark Melis, Office of the Attorney General for DHCD states "we determined that the stairs did not meet applicable headroom requirements. This determination was based on both Loudoun County's determination as well as the site inspection completed by Eric Leatherby on April 9, 2012. This issue appeared to arise from a design flaw. As a result, there was an IBSR violation."

12. In accordance with Virginia Code § 36-83, at 13 VAC 5-91-90, any person, firm or corporation violating any provisions of this chapter shall be considered guilty of a Class 1 misdemeanor.

reasonable person to believe it, with the intent that a person will act upon this representation, that somehow the product met required safety standards and is available for re-sale when in reality the product is defective, diminished, not what was bargained for, nor does it serve its intended purpose.

In order for NTA Inc. to become a CAA, written information must be provided to DHCD under oath intended to be relied upon. Required under 13 VAC 5-91-200, section 6 provides for "procedures to deal with defects". Based on NTA Inc's "Quality Manual For Inspection Activities", NTA Inc. states that "All complaints by ... parties are fully resolved" (5.1 page 12 of 14). Further, @ 5.3 page 12 of 14, NTA states "Corrective action for non-conforming work is to be performed". When the Ms. Madison contacted the President of NTA Inc, Mr. David Tompos, on September 16, 2011, NTA Inc. willfully sought to misdirect Ms. Madison, leaving her "holding the bag" and failed to "resolve" the complaint. NTA Inc. represented as true what is false, in such a way as to induce a reasonable person to believe it, with the intent that the person will act upon the (mis)representation. It remains unclear why Mr. Vernon Hodge refused to add NTA Inc. as a party in this matter and why Ms. Cindy Davis has not required compliance.

In addition, within NTA Inc.'s "Quality Manual For Inspection Activities" NTA Inc. affirms under oath to DHCD that specific procedures are in place for manufacturers to follow with NTA Inc. oversight. Found in the "Procedure For Continued Evaluation of Plant" at 3-b. NTA Inc. specifically states "inspectors are expected to identify and advise headquarters..." if the plant engages in the "Production of significant new designs, such as changing from one-story to two-story modular" (ISSOP 3.3.3 page 2 of 3, Revised 01/20/04). Milton was *not certified* to build three story houses and NTA, Inc. was negligent in turning a blind eye or simply so incompetent as to not realize that the house was three-stories during the audit process and

inspection process of the units¹³. It was impossible for NTA Inc. to inspect the three story dwelling, when NTA Inc. operated under or created the erroneous premise that Ms. Madison's house was a two-story house based on NTA Inc.'s own approval of the "Two Story" permit documents and plan.

NTA Inc. approved Milton's "Installation Systems and Procedures for Setting Modular Housing", dated March 7, 2011 stamped by Michael Faller. The document fails to include any procedure for setting three story modulares¹⁴. The manufacturer's installation instructions are for "ranch style" and "two story" units only¹⁵. Under 13 VAC 5-91-245, the CAA is required to ensure that the data plate is complete including the "special instructions for handling, installation and erection of the building" noting that a "list of such instructions that are furnished separately with the building shall satisfy this requirement". NTA Inc. failed to ensure that three story installation instructions were available. NTA Inc. caused the data plate to be incorrect that states the building is "two-story", when in fact it is a three story house, also affecting the square footage calculation and thermal resistance data.

13. The 2009 International Building Code Handbook as adopted and incorporated within the IBSR, 13 VAC 5-91-160, defines an attic as follows: "ATTIC. Section 202 identifies an attic as that space between the ceiling beams at the top story and the roof rafters. An attic designation is appropriate only if the area is not considered occupiable. *Where this area has a floor, it would be defined as a story.* A common misuse of terminology is the designation of a space as a habitable or occupiable attic. Such a designation is inappropriate insofar as once such a space is utilized for some degree of occupancy, it is no longer deemed an attic." The house came with 3/4" plywood installed at the factory and the non-code compliant staircase to the third floor for use.

14. The purpose of the installation manual "is to provide field personnel with sufficient information to enable them to prepare the site and foundation, provide adequate utilities, set the modular units, complete exterior and interior finishings, and finally turn over the building to the owner", page 2 @ paragraph 1. It should be noted that field personnel included Milton staff.

15. Under VAC 5-91-270, it is required that "persons or firms installing or erecting registered industrialized buildings shall install or erect the building in accordance with the manufacturer's instructions".

This disregard can be contrasted, for example, to the immediate correction and standard of care extended by Barlow Engineering. Barlow Engineering performed shear wall and wind calculations for the project. Upon notification to Barlow, Barlow immediately corrected the error and such corrections have been properly stamped and filed with the code official. NTA had multiple opportunities to correct the misrepresentations and errors.

Milton staff, allegedly seeking to cure NTA Inc.'s "approved" plan, demolished the wall along the third floor stairs, leaving hot dangling wires exposed, and unguarded voids to the open stairwells, caused an unreasonable risk of harm to Ms. Madison and the property in further violation of the USBC¹⁶. The engineered "repair plan" was not sealed or stamped. NTA Inc. was aware of the stair problem (s) and NTA Inc. had a duty to "provide design review on engineering documents". On October 28, 2011, Mr. David Tompos states "We can not approve the changed plans until we received them from Integrity or the engineer". Under oath, NTA Inc. states they will resolve all complaints but did not and caused Ms. Madison's house to be ineligible for sale¹⁷.

Under 13 VAC 5-91-250, NTA had a duty and obligation to review, inspect and certify as building code compliant "the design of the building", "by the stamp and date of approval on each design sheet" of the modular units to be manufactured by Milton. NTA Inc. failed to provide and stamp the design sheets of the "third" floor. NTA did not fulfill this duty and obligation under the law.

16. Pursuant to the USBC, 103.5 Reconstruction, alteration or repair. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.

17. The contract between Milton and NTA Inc., with respect to the Ms. Madison's property has been requested .

Under 13 VAC 5-91-180 NTA had a duty and obligation to "evaluate industrialized buildings for compliance". NTA Inc. failed to ensure that under 13 VAC 5-91-245, that the manufacturer's data plate is complete and correct as affixed to the house. NTA Inc. failed to correctly distinguish a two story house from a three-story house, failed to distinguish and assess thermal resistance values, failed to properly designate the electrical service ratings, failed to determine the design floor live load, and determine the total square footage of the house. Based upon information and belief, the SBCOA at DHCD agreed that NTA Inc. erroneously attested to the accurateness of the data plate specific to 13 VAC 5-91-245 at 11. The data plate states the amp service is 200 when in reality it is 400¹⁸.

----- Forwarded Message -----

From: Martin Sickle <MartyS@integritybuild.com>
To: Hunter Madison <huntermadison2002@yahoo.com>
Sent: Wednesday, June 22, 2011 8:15 AM
Subject: RE: Mtr base sizing, two 200 amp panels

We are building the house with 2-200 amp service panels

The code states that the the labels shall be under the direct control of the compliance assurance agency until "applied" by the manufacturer to the buildings that "comply fully with this chapter". NTA Inc. was negligent by giving Milton the labels, or affixing them to the house, when they should have known the building did not meet code and was not eligible for such certification.

Through the Performance Agreement, Letter Agreement and installation procedures, Milton was called upon to complete the project after it was abandoned by Mr. McNutt and worked on the project extensively prior to entering the Contract. The parties agreed that the "Contractor will perform its obligations under this contract in a good and workmanlike manner

18. Ms. Madison expended nearly \$12,000 to complete the electrical system when Milton staff, the "electrician", could not "fix" or explain why the electrical system was not "working" when he attempted to connect certain boxes at the site and gave up trying.

and in accordance with best industry practices”; that the “Agreement shall be governed and construed in accordance with the laws of the Commonwealth of Virginia” (including building code); and that “Contractor is responsible for the accurateness and completeness of the plan”. Accordingly, the duty of care and the standard of care arise through both the statutes, agreement, and acceptable industry practice. Milton held themselves as qualified, experienced, experts through statements and advertisement that state "...Incorporated in May 1999, Integrity Building Systems is privately owned and operated by an *experienced* management team with more than 150 years combined *experience* in the modular housing industry. This *experience* shows through in our product..."

Through the Performance Agreement, Milton assumed the responsibilities under the Contract, including setting functions¹⁹. Milton staff participated in the original set and made additional site visits to work on the project. Under VAC 5-91-270, it is required that “persons or firms installing or erecting registered industrialized buildings shall install or erect the building in accordance with the manufacturer's instructions”. Milton failed to set the units in compliance with the code and their own installation requirements (a standard of care defined by the law), and also performed work in a shoddy and deficient manner, including but not limited to the removal of the staircase wall. Pursuant to USBC, 103.5 Reconstruction, alteration or repair; “The following *criteria* is applicable to reconstruction, alteration or repair of buildings or structures: 1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower

19. The Performance Agreement states: “Integrity is the builder of the modular units and wishes to stand behind and guarantee the performance under CONTRACT FOR MODULAR # C-484709 in order to provide the Customer assurances that modular are manufactured, delivered and set on the foundation as provided in CONTRACT FOR MODULAR # C-484709.”

existing levels of health and safety.” Milton failed to utilized stamped plans by an engineer (another code violation) and failed to obtain a permit (another code violation).

Milton was fully aware of and took no meaningful action, including but not limited to, the fact that all three staircases did not meet applicable; refused to install a sufficient tarp over the roof to ensure the structure was weather-tight; refused to nail the second story units to the first story units at the time of installation; refused to bolt/secure the modular units to each other and shim them as needed; refused to install exterior sheathing; Milton installed the wrong size windows, by switching them in their placement as part of the set process; and altered the plan without written permission or by approval from authorities.

Requested Relief: Milari Madison requests that Ms. Davis/DHCD be directed to issue appropriate correction notices for each offense as described against Milton and NTA Inc.

Additional Documents Submitted by State Building Codes Office

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COMMONWEALTH of VIRGINIA

Office of the Attorney General

Kenneth T. Cuccinelli, II
Attorney General

February 27, 2013

900 East Main Street
Richmond, Virginia 23219
804-786-2071
FAX 804-786-1991
Virginia Relay Services
800-828-1120
7-1-1

Via E-Mail (alan.mcmahan@dhcd.virginia.gov)
and Hand Delivery
Alan McMahan, Staff
State Building Code Technical Review Board
Virginia Department of Housing and Community Development
600 East Main Street, Suite 300
Richmond, Virginia 23219

Re: Appeal of Milari Madison to the Review Board (Appeal No. 12-5)

Dear Ms. Davis:

Pursuant to your January 30, 2013 letter, enclosed please find the State Building Codes Office's Response to the Review Board Staff Document for this appeal. Thank you for your attention to this matter. Please feel free to call me at (804) 371-7965 if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Mike F. Melis".

Mike F. Melis,
Assistant Attorney General

cc: Cindy Davis
Milari Madison
Chris Thompson
Gina L. Schaecher

VIRGINIA:

**BEFORE THE STATE BUILDING CODE
TECHNICAL REVIEW BOARD**

**IN RE: Appeal of Milari Madison
 Appeal No. 12-6**

RESPONSE TO REVIEW BOARD STAFF DOCUMENT

The State Building Code Administrative Office, currently known as the State Building Codes Office ("SBCO"), of the Virginia Department of Housing and Community Development, states as follows in response to the Review Board Staff Document circulated by cover letter dated January 30, 2011.

I. SUMMARY OF SBCO POSITION

The issues before the Board in this appeal are framed by Milari Madison's September 5, 2012, Application for Administrative Appeal, a copy of which is attached as Exhibit A. In her Application, Ms. Madison appeals from the SBCO's August 20, 2012, determination to take no action against the manufacturer of Ms. Madison's home for any alleged violations of the Virginia Industrialized Building Safety Regulations ("IBSR") because, at the time, the SBCO believed the manufacturer was no longer in business. Disagreeing with the SBCO, Ms. Madison argued that the manufacturer continued to operate and do business under a new name. The relief sought by Ms. Madison in her Application is narrow - that the Board direct the SBCO to issue notices of violation to the manufacturer, as well as the Compliance Assurance Agency ("CAA"), and their officials, for any applicable IBSR violations.

Since Ms. Madison filed her Application, the SBCO has determined that the manufacturer changed its name and continues to exist. Accordingly, on November 19, 2012, the SBCO sent the manufacturer a letter directing it to investigate the only residential code violation

that the SBCO has observed and that the SBCO understands continues to exist. The SBCO is working with the manufacturer in an effort to address this residential code violation. Thus, it is the SBCO's position that the issue raised in this appeal - whether the manufacturer still exists and is subject to SBCO oversight - is moot. As for Ms. Madison's request that the SBCO issue a Notice of Violation to the CAA, the IBSR grants the SBCO authority to require *manufacturers* to correct code violations. The IBSR does not contemplate requiring a CAA to correct such violations. And, to the extent any violations arose from on-site installation as opposed to the design or manufacture of the home's components in the factory, such violations are not subject to the SBCO's authority. For these reasons, Ms. Madison's appeal must be dismissed.

II. CASE HISTORY AND PERTINENT FACTS

In light of the nature of this appeal and the relief sought in Ms. Madison's Application, the SBCO states that the pertinent facts and documents are those that pertain to: 1) the SBCO's initial determination that the SBCO's could not address Ms. Madison's concerns with the manufacturer because it ceased to exist, 2) the SBCO's subsequent determination to address any potential IBSR violations with the manufacturer which, in fact, is now operating under a different name, and 3) NTA's status as the Compliance Assurance Agency. The SBCO objects to the consideration of facts and documents that do not relate to these determinations. And, to the extent Ms. Madison seeks to expand the scope of her appeal beyond the relief requested in her Application, the SBCO objects to such expansion. In a February 15, 2012 letter, a copy of which is attached as Exhibit B, the SBCO provided Ms. Madison with its position on various issues she has raised that are outside the scope of the instant appeal.

For the purpose of supplementing, clarifying and, where necessary, correcting the Suggested Statement of Case History and Pertinent Facts set forth in the Review Board Staff Document, the SBCO states as follows:

1. Ms. Madison filed a Complaint Form, dated December 15, 2011, with the SBCO. *See* Complaint Form attached as Exhibit C. In it, she described multiple concerns regarding the modular home manufactured by a company known at that time as Integrity Building Systems, Inc., ("Integrity"). NTA, Inc. ("NTA") was the Compliance Assurance Agency under 13 VAC 5-91-10 for the manufacture of this home.

2. In a December 29, 2011 letter, the SBCO noted its understanding at the time that Integrity was no longer in business and, therefore, the SBCO was unable to cite Integrity for any potential violations. *See* December 29, 2011 letter, attached as Exhibit D. Ms. Madison and the SBCO continued communications regarding Ms. Madison's concerns. In an effort to provide assistance to her and to verify any potential building code violations caused during the manufacture of the home in the factory, on April 9, 2012, SBCO personnel visually inspected her home. *See* April 9, 2012 File Report re: site inspection, attached as Exhibit E. The only residential code violations observed were improper headroom in the stairways from the first to second floor and second floor to third-floor/attic, and an inconsistency between the building plans showing 200 amp electrical service and the home's two 200 amp breaker panels for a total of 400 amp service.

3. By letter dated August 20, 2012, the SBCO formally declined to act on Ms. Madison's Complaint because the SBCO understood at the time that Integrity was no longer in business. *See* August 20, 2012 letter, attached as Exhibit F. The SBCO had not yet determined

that Integrity had changed its name to Milton Home Systems, Inc. ("Milton"), and still existed as a corporate entity.

4. Ms. Madison appealed the SBCO's decision by completing her Application on September 5, 2012. The relief she seeks in her Application is for the Board to require the SBCO to issue a Notice of Violation to Milton and NTA for any IBSR violations.

5. The SBCO has since determined that Integrity continues to exist and is now known as Milton. On November 19, 2012, the SBCO sent a letter to Milton directing it to investigate the lack of required headroom in the stairway from the first floor to the second floor. *See* November 19, 2012 letter, attached as Exhibit G. The SBCO is currently addressing this code violation with Milton so that the SBCO can determine whether the violation arises from a design/manufacturing flaw subject to the SBCO's authority, or an on-site installation flaw subject to the local building department's authority. *See* December 9, 2012 letter, attached as Exhibit H, and February 25, 2013 letter, attached as Exhibit I.

6. At the September 2012 informal fact-finding conference, the parties stipulated that the stairway from the second floor to the attic has been removed and that plans have been submitted and approved by Loudon County for a code complying stairway that is in the process of being installed.

7. Regarding the electrical panel issue, the home appears to have been shipped with a single 200 amp electrical panel and a separate 200 amp panel shipped loose and installed on site. This is consistent with both the SBCO's visual inspection of the home and the position of Milton. *See* February 20, 2013 letter, attached as Exhibit J.

8. By way of correction, SBCO personnel do not recall any discussion during the September 2012 informal fact-finding conference regarding site work being performed by staff of NTA.

III. ARGUMENT

Ms. Madison's appeal must be dismissed as to both Milton and NTA. Regarding Milton, Ms. Madison's appeal is moot. While the SBCO initially understood that Integrity, the manufacturer of Ms. Madison's home, was no longer in business, the SBCO has since determined that Integrity changed its name to Milton. Accordingly, the SBCO is currently in discussions with Milton in an effort to determine whether the residential code violation involving the stairway to the second floor arises from a design/manufacturing error or an installation error. If the code violation arises from an on-site installation error and, therefore, does not arise from the design or manufacture of the stairway, then the SBCO lacks authority to cite the manufacturer. As for the electrical panel issue, it does not appear to be an IBSR violation in that the second 200 amp panel was shipped separately and installed on site. As shipped, the home was designed and manufactured for 200 amp service, which is consistent with the data plate. Regardless, because the SBCO has determined that Milton is the manufacturer of Ms. Madison's home, Ms. Madison's appeal of the SBCO's earlier determination that the manufacturer no longer existed is now moot.

Regarding NTA, the IBSR does not authorize the SBCO to issue notices of violation to a CAA or to require a CAA to correct violations. Under 13 VAC 5-91-40, the SBCO "shall have authority to issue inspection reports for correction of violations caused by *the manufacturer* and to take such other actions as are required to enforce this chapter." (Emphasis added.) Under 13 VAC 5-91-60, if the SBCO finds a violation of the IBSR, it shall order "the person responsible

therefor to bring the building into compliance within a reasonable time, to be fixed in the order.” Thus, the person responsible for creating the violation - the manufacturer - is the person to which the SBCO issues a notice of violation. In this case, NTA did not manufacture any part of the home. As the CAA under contract with the manufacturer, NTA was responsible for evaluating, monitoring and inspecting the manufacture of the home. See 13 VAC 5-91-10; 13 VAC 5-91-40(B). The IBSR contains no provisions authorizing the SBCO to require NTA to correct any IBSR violations. Nor does the IBSR authorize the SBCO to issue a notice of violation to NTA. Thus, Ms. Madison’s appeal with regard to this issue must be dismissed.

IV. RESPONSES TO SUGGESTED ISSUES FOR RESOLUTION

1. Whether the reason given by the SBCO for not taking any action against Integrity or Milton in the August 20, 2012 letter is properly before the Review Board; and if so, whether the new determination by the SBCO in the November 19, 2012 letter renders the appeal of that issue moot; and if not, whether to overturn determinations of the SBCO with respect to that issue.

RESPONSE: For the reasons set forth above, Ms. Madison’s appeal of the SBCO’s initial decision not to take any action against Integrity or Milton is now moot as a result of the SBCO’s current understanding, as reflected in the November 19 letter, that Integrity changed its name to Milton and Milton is the manufacturer of Ms. Madison’s home.

2. Whether the issue of the data plate for the home being incorrect for the electrical service size and number of stories is properly before the Review Board; and if so, whether to overturn determinations of the SBCO with respect to that issue.

RESPONSE: For the reasons set forth above, this issue is not properly before the Board. Ms. Madison has appealed the SBCO’s initial determination not to take any action against

Integrity or Milton, an issue which is now moot. And, to the extent Ms. Madison asks this Board to require the SBCO to take action against NTA with regard to its certifications on this issue, even assuming an IBSR violation exists, the IBSR does not provide the SBCO authority to require NTA to correct any IBSR violations. Nor does the IBSR provide the SBCO authority to issue a Notice of Violation to NTA.

3. Whether any other issues identified by Madison are properly before the Review Board; and if so, whether to overturn determinations of the SBCO on such issues.

RESPONSE: As stated above, the issues before the Board in this appeal are framed by Ms. Madison's September 5, 2012, Application for Administrative Appeal. In her Application, Ms. Madison appeals from the SBCO's August 20, 2012, determination not to cite the manufacturer of Ms. Madison's home for any alleged violations of the IBSR. The relief sought by Ms. Madison in her Application is narrow - that the Board direct the SBCO to issue notices of violation to Milton, as well as NTA, and their officials, noting any applicable IBSR violations. As to Milton, this issue is moot and, as to NTA, the SBCO lacks authority to issue a notice of violation to it. No other issues are before the Board.

V. CONCLUSION

For all of the foregoing reasons, the SBCO respectfully requests that the Board dismiss Ms. Madison's appeal.

Respectfully submitted,

Department of Housing and Community
Development – State Building Code Office

By: 

Counsel

Mike F. Melis (VSB# 43021)
Assistant Attorney General
Office of the Attorney General
900 East Main Street
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Tel: (804) 371-7965
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mmelis@oag.state.va.us

CERTIFICATE OF SERVICE

I certify that on February 27, 2012, a true and accurate copy of the foregoing was forwarded by e-mail and by U.S. mail, first class, postage prepaid, to:

Milari Madison
40153 Janney Street
Post Office Box 302
Waterford, Virginia 20197
huntermadison2002@yahoo.com

Chris Thompson
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SE Mailstop #60b
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Mike F. Melis

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcmahan@dohcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

☒ Uniform Statewide Building Code

☐ Statewide Fire Prevention Code

☒ Industrialized Building Safety Regulations "letter" no cited code
or Regulations
provided

☐ Amusement Device Regulations

Appealing Party Information (name, address, telephone number and email address):

Milane Madison

40153 Sanny Street, Box 302

Waterford VA 540-882-3160

Opposing Party Information (name, address, telephone number and email address of all other parties):

DHCD, SRC official IR.

huntermadsen2002@yahoo.com

Additional Information (to be submitted with this application)

- ☒ Copy of enforcement decision being appealed
- ☐ Copy of record and decision of local government appeals board (if applicable and available)
- ☒ Statement of specific relief sought

CERTIFICATE OF SERVICE

I hereby certify that on the 5th day of September, 2012, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant:

Milane Madison

Name of Applicant:

Milane Madison

(please print or type)

EXHIBIT

A

Milari Madison
40153 Jantley Street
P.O. Box 302
Waterford, VA 20197

September 5, 2012

Re: Appeal to August 20, 2012 "letter" by Ms. Cindy Davis

Ms. Davis's "letter" is based on a factual error, assumptions, opinion, and the misapplication and interpretation of Virginia law (letter attached). Under the direction of Mr. Emory Rodgers, the attached letter is subject to appeal. It should be noted, DHCD failed to provide any published guidelines/rules/or code sections relied upon in the "letter" to formulate the conclusions.

DHCD relies upon on a false assumption that Integrity Business Systems, Inc. was/is somehow "out of business" and therefore no longer subject to applicable code. Worse, the Davis "letter" erroneously proposes that this information (Integrity Business Systems, Inc. is out of business), was supplied by me. Contrariwise, as found in the excerpt from the email below, DHCD was specifically advised that Integrity Business Systems only changed their name.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Thursday, February 02, 2012 12:54 PM
To: Brock, Larry (DHCD); Leatherby, Eric (DHCD)
Cc: Chris Thompson
Subject: Madison complaint, Integrity Building Systems

Dear Larry and Eric,

You may know this already---

I just got off the phone with the Pennsylvania Corporation Commission. They told me that Integrity Building Systems Inc. changed their name on 11-16-2011 to Milton Home Systems, Inc. with Richard Rowe remaining as President, Glenn Salsman remaining as Secretary. Glenn Salsman signed the Performance Agreement. The same address appears for Milton Home Systems, Inc as Integrity held. 2435 Housels Run Road, Milton, PA 17847.

No merge or acquisition papers have been filed. She is sending me a copy of the paperwork she has on file.

The Virginia law is very clear that "The change of a corporation's name is not a change of the identity of a corporation and has no effect on the corporation's property, rights, or liabilities." *Alley v. Miramon*, 614 F.2d 1372, 1384 (5th Cir. 1980); see also *Wright-Caesar Tobacco Co. v. A. Haen & Co.*, 54 S.E. 309, 311 (Va. 1906) (the Virginia Supreme Court did not permit a company to avoid liability by changing its name where the successor company was "but a continuation" of the first company). DHCD has no

authority conferred upon it to make up a new interpretation of established VA law for the purpose of not enforcing state building code in this instant matter.

Attached is a letter from the Integrity Building Systems, Inc. attorney (now doing business as Milton Home Systems, Inc. "Milton"), that confirms they are not "out of business" but that they merely changed the company name. Integrity Business Systems, Inc. did NOT go out of business. The letter, dated, February 10, 2012 states "This firm is counsel to Milton Home Systems, Inc., successor by name change to Integrity Building Systems, Inc."

The names of the officers remain the same "persons" and are subject to the provisions of the code regardless of what company name they built, sold, set, and altered the house under: 13 VAC 5-91-90: Penalty for violation. In accordance with § 36-83 of the Code of Virginia, any persons, firm or corporation violating any provisions of this chapter shall be considered guilty of a Class 1 misdemeanor and, upon conviction, shall be fined not more than \$1,000 to prosecute.

DHCD is required under the law, at § 36-85.5. Enforcement, to "seek enforcement of the civil and criminal penalties established by § 36-85.12 of this law". However, DHCD has relied upon an *ad hoc* made up rule; the change of the company name means that no compliance is necessary and no action will be taken by DHCD.

Provided under 13VAC5-91-60, Notice of violation, DHCD has disregarded its duty. In accordance with § 36-82 of the Code of Virginia, whenever the administrator shall find any violation of this chapter, he shall order the person responsible to bring the building into compliance within a reasonable time, to be fixed in the order. In addition, as a requirement of this chapter, the administrator may request assistance from the building official for enforcement of this section.

13VAC5-91-100. Duties and responsibilities of building officials in the installation or erection of a registered industrialized building at (C.); when a building official determines that a violation of any provision of this section is present, the responsible person shall be notified and given a reasonable time to correct the violation. If the violation is not corrected, the building official shall institute the appropriate proceedings to require correction or abatement of the violation and may prohibit the occupancy of the building until the violation is corrected." The provisions of the law cannot be more clear, shall does not mean maybe.

At 13VAC5-91-20, Application and compliance (c), the VAC provides that "the installation or erection of industrialized buildings and alterations, additions, or repairs to industrialized buildings are regulated by the USBC". The provisions of this chapter "do not prohibit the administrative provisions of the USBC for permits, inspections, certificates of occupancy and other matters from being applicable to the extent they are not addressed by the requirements of this chapter." DHCD has a duty to protect the public from unscrupulous businesses and to protect the safety and welfare. However, in this instant matter, DHCD has made the irrational conclusion that a name change to a

business means they do not have any obligations or liabilities, as a business, entity, or persons in violation of the plain language of the code.

115.2 Notice of violation. The building official shall issue a written notice of violation to the responsible party if any violations of this code or any directives or orders of the building official have not been corrected or complied with in a reasonable time. The notice shall reference the code section upon which the notice is based and direct the discontinuance and abatement of the violation or the compliance with such directive or order. The notice shall be issued by either delivering a copy to the responsible party by mail to the last known address or delivering the notice in person or by leaving it in the possession of any person in charge of the premises, or by posting the notice in a conspicuous place if the person in charge of the premises cannot be found. The notice of violation shall indicate the right of appeal by referencing the appeals section. When the owner of the building or structure, or the permit holder for the construction in question, or the tenants of such building or structure, are not the responsible party to whom the notice of violation is issued, then a copy of the notice shall also be delivered to the such owner, permit holder or tenants.

DHCD is fully aware that violations to the code exist but simply prefers to do nothing. The Loudoun County Code Enforcement Division notes, in writing, by email dated February 28, 2012:

From: "Thompson, Chris" <Chris.Thompson@loudoun.gov>
To: Hunter Madison <huntermadison2002@yahoo.com>;
"potter@rudnitskyhackman.com" <potter@rudnitskyhackman.com>
Cc: "Leatherby, Eric (DHCD)" <Eric.Leatherby@dhcd.virginia.gov>; "Brock, Larry (DHCD)" <Larry.Brock@dhcd.virginia.gov>

Milari,

There were several items in your home that were not code compliant. They were the stairs leading to the wing off the kitchen which did not meet the requirements of section R311.5.3.3 Profile. Specifically the treads were temporary and did not meet the profile requirements and had open risers in excess of 4 inches.

The stairway to the second floor did not meet the requirements of section R311.5.2 Headroom.

The stairway to the third floor did not meet the requirement of section R311.5.2 Headroom and R311.5.4 Landings for Stairways.

There are temporary guards that do not meet the requirements of section R312.1 Guards.

County of Loudoun
Building and Development
Code Enforcement Division
Chris Thompson

Other code violations directly caused by Milton were rectified at my additional expense including the installation of a guard rail to the basement (the stairs were set by Milton staff on-site causing a hazardous condition) and the dimensions of the chimney box (built

and set by Milton staff on-site). The chimney box size and conduit Milton built would not accommodate the chimney pipes per the manufacturer's specifications, was a potential danger, and does not comply with the plan. Milton directly violated section 103.5 Reconstruction, alteration or repair, which provides in part; "Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety."

Milton provided a "plan" (without stamped drawings to the County) to install a spiral staircase that their unlicensed staff began to implement without my written approval that also violated section 103.5; "Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety."

Milton staff was found in the house, after they removed the wall enclosing the staircase to the third floor, preparing to cut open the attic floor to accommodate the "box" for a spiral staircase (a spiral staircase was not bargained for as it provides diminished functionality and an undesirable detail for the planned residence). I asked Milton to see a copy of the "plan" they were using. It was obvious that the center pole, in reality, would have no floor to sit upon, that the location as they showed the center pole would place the pole above the open air of the stairway below. They agreed the plan would fail, called their supervisor, and went home. Milton staff apparently relied upon "drawings/plans", not stamped as required by 109.3 (Engineering details. All engineered documents, including relevant computations, shall be sealed by the RDP responsible for the design). Milton's "repair" actions caused additional unsafe conditions leaving both staircases unguarded and dangling hot electrical wires coming down from the third floor, those wires feeding to the third floor and the wires embedded in the wall as removed by Milton.

NTA, INC

NTA Inc. is a "Compliance assurance agency" as defined under 13 VAC 5-91-10, meaning a "professional engineer registered in Virginia, or an organization, determined by DHCD to be specially qualified by reason of facilities, personnel, experience, and demonstrated reliability, to investigate, test and evaluate industrialized buildings; to list such buildings complying with standards at least equal to this chapter; to provide adequate follow-up services at the point of manufacture to ensure that production units are in full compliance, and to provide labels as evidence of compliance on each manufactured section or module."

The units, although they do not meet code, have registration labels affixed to them by NTA Inc. that provide assurances that the units meet code when, in fact, they do not.

§ 36-79. Effect of label of compliance assurance agency. Any industrialized building shall be deemed to comply with the standards of the Board when bearing the label of a compliance assurance agency. As we know, the units contain "Mac Daddy" building code violations but were affixed with the labels anyway.

NTA Inc., failed to comply with the requirements as represented by NTA to DHCD but DHCD seems to look the other way. Since they are affixing labels that erroneously state that the structure meets code, they are in violation of the law and should not be permitted to act as a Compliance Assurance Agency, is required to fix the problems, and is subject to criminal prosecution. Contrary to the requirements mandated by 13 VAC 5-91-180, and 13 VAC 5-91-200, NTA states that "All complaints by parties are fully resolved" (S.1 page 12 of 14 of the NTA data package to DHCD). Further @ S.3 page 12 of 14 NTA states "Corrective action for non-conforming work is to be performed." NTA has done nothing to cure the defects in the house contrary to their oath.

DHCD's "letter" is incorrect in its assumption that the house somehow was delivered with a "second 200 amp panel" that was "shipped loose" with the home. Although NTA certifies that the house's data plate is "correct" by stating the house has a 200 amp service, Milton shipped, built and wired the house for a 400 amp service, had both panels wired and had unlicensed staff endeavor to understand why the electric was not "working". Milton staff attempted to connect certain boxes, and simply said, on-site, they did not know what was wrong.

From: Martin Sickle <MartyS@integritybuild.com>
To: Hunter Madison <huntermadison2002@yahoo.com>
Sent: Wednesday, June 22, 2011 8:15 AM
Subject: RE: Mtr base sizing, two 200 amp panels

We are building the house with 2-200 amp service panels

Martin Sickle
V.P. Sales & Marketing
Integrity Building Systems, Inc.
2435 House's Run Road
Milton, PA 17847
Phone (800) 553-4402 Ext. 3629
Cell Phone (570) 274-3031
Fax: (570) 522-0089
msickle@integritybuild.com
www.integritybuild.com

Success is not what you get; it is what you become.

From: Hunter Madison [mailto:huntermadison2002@yahoo.com]
Sent: Wed 6/22/2011 7:48 AM
To: Martin Sickle
Subject: Fw: Mtr base sizing, two 200 amp panels

Marty,

The power company maintains that I need two 200 amp panel boxes (see below). Darren said I need 400 amp service too.

Please confirm that this is done as I am having the power company bring in the

line ASAP.

Milton

13 VAC 5-91-90. Penalty for violation. In accordance with § 36-83 of the Code of Virginia, any persons, firm or corporation violating any provisions of this chapter shall be considered guilty of a Class 1 misdemeanor and, upon conviction, shall be fined not more than \$1,000 to prosecute.

**PALTRY SETTLEMENT OFFER DOES NOT
MEAN MILTON OR NTA, INC. ARE FREE OF DUTY**

DHCD's "letter" is grossly remiss in suggesting that a paltry settlement offer from Milton should somehow negate NTA, Inc., Milton and DHCD duty under 13VAC5-91-100 and other applicable law, including the intent and purpose of state regulations.

The duty and responsibility of the building official in the installation or erection of a registered industrialized building include "When a building official determines that a violation of any provision of this section is present, the responsible person shall be notified and given a reasonable time to correct the violation. If the violation is not corrected, the building official shall institute the appropriate proceedings to require correction or abatement of the violation."

Milton manufactured, delivered, set, and altered the dwelling that was not agreed upon in writing. NTA, Inc. provided assurance guarantees that the house met code and failed to perform under the NTA oath to DHCD. The approved plan was altered. The failure of the "Mac Daddy" code violation, the stairs, not only violates code, but results in a product that does not meet its intended purpose and poses an endangerment. The house is not level, was not watertight, was not delivered and set per the plan, or in compliance with the setting procedures provided by NTA Inc., and continues to suffer from cracks and buckling. It is simply disingenuous for DHCD to drop the ball, because the Milton's Pennsylvania attorney states that they made an "offer" to settle, an offer that fails to cover the expenditure to fix the numerous problems and other proper compensation.

RELIEF SOUGHT FROM THE TRB

The precedent of this type of "letter"/policy is significant. Are all companies, that come before a building official simply, going to change their name and walk away from obligations based on this *ad hoc* policy? I certainly hope DHCD does not incorporate such a policy into actual published guidelines for unscrupulous builders to enjoy.

I am requesting that the TRB direct the Building Code Official to issue the Notice of Violation to all companies, including Milton and NTA, Inc and responsible parties/persons including Mr. Tompos, Mr. Salsman, and Mr. Rowe noting the applicable violations including but not limited to:

R311.5.3.3 Profile. Specifically the treads were temporary and did not meet the profile requirements and had open risers in excess of 4 inches.

The stairway to the second floor did not meet the requirements of section R311.5.2 Headroom.

The stairway to the third floor did not meet the requirement of section R311.5.2 Headroom and R311.5.4 Landings for Stairways.

Temporary guards that do not meet the requirements of section R312.1 Guards.

103.5 Reconstruction, alteration or repair have caused additional dangerous and unsafe conditions, lowering safety, including dangling hot electric wires and unguarded stairways.

Failure to submit engineering details 109.3 (Engineering details)

Respectfully Submitted

Milari Madison

Milari Madison

Rudnitsky & Hackman, L.L.P.

Attorneys at Law

Courtyard Office
1372 N. Susquehanna Trail, Suite 130
Selling Grove, Pennsylvania 17870

Telephone (570) 743-2333

Fax (570) 743-2347

www.rudnitskyhackman.com


February 10, 2012

Via Email & US First Class Mail

Paul G. Madison
Kelley, Drye & Warren, LLP
Washington Harbour, Suite 400
3050 K Street, NW
Washington, DC 20007-5108

Re: **Milari Madison**
BCP-12-05-000656

Dear Mr. Madison:

 This firm is counsel to Milton Home Systems, Inc., successor by name change to Integrity Building Systems, Inc.

We received a copy of a letter that Tim Finnerty, counsel for Integrity Building Systems LLC, directed to the Office of the Attorney General which details the circumstances regarding the sale and purchase in question. A copy is enclosed for your records. Attorney Finnerty has correctly described the structure of the transaction and the fact that this particular claim was not assumed by Integrity Building Systems LLC.

Having reviewed our client's file, we know that this matter has been ongoing for a number of months and that you may not have received a response to either your letter of September or December. Now that we are involved, we hope to engage in a productive discussion as to how this matter may be resolved.

Please direct any and all further communications regarding this matter to our office.

Very truly yours,

RUDNITSKY & HACKMAN, L.L.P.

BY:


KENNETH G. POTTER

Email to potter@rudnitskyhackman.com

Enclosure
cc: client



Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

William C. Shelton
Director

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

August 20, 2012

Ms. Millari Madison
40153 Janney Street
Waterford, VA 20197

Dear Ms. Madison,

I am in receipt of your August 16, 2012 e-mail regarding your modular home complaint. You have requested that this office provide you with "any document sent to NTA directing the correction of the building code violations" at your property. Please be advised that this office has not sent any documents to NTA directing them to correct any building code violations.

As you are aware, based on past correspondence and conversations, the State Building Codes Office acts as the building official for registered industrialized buildings, commonly referred to as modular homes. As the building official this office is authorized to cite the manufacturer for building code violations that are introduced during production in the factory. NTA is not the manufacturer of your home and therefore this office cannot direct them to correct building code violations caused by another entity. Integrity Building Systems, Inc. manufactured your home and would be the proper party to cite for any factory violations. However as we previously reported to you, this office received notice from Integrity Building Systems on October 21, 2011 that effective November 17, 2011 they were ceasing all operations and their assets were being sold to another manufacturer. As Integrity Building Systems is no longer in business we are unable to cite the manufacturer for the potential violations listed in your complaint.

It is our understanding that individuals associated with Integrity Building Systems later formed a new and unrelated business entity called Milton Home Systems, Inc., based on the information you provided. This office cannot cite Milton Homes Systems as they did not manufacture your home.

The primary issue contained in your December 15, 2011 complaint to this office was the insufficient headroom provided in the stairway to the third story of your home. The Loudoun County building department had previously cited this as well as insufficient headroom in the stairway leading to the second story as violations caused by the manufacturer.

In an effort to assist you in resolving your complaint, representatives from this office, the Loudoun County building department, NTA and Milton Homes met at your home on April 9, 2012 to verify the cited building code violations and seek a possible resolution.

Correspondence dated May 30, 2012 from the attorney representing Milton Home Systems, Inc. stated that a monetary settlement had been offered to you to resolve your issues with Integrity Building Systems, Inc. (see attached). The Loudoun County Building Department subsequently advised this office that work was being performed to construct a new stairway to the top story of your home, based on plans that had been reviewed and approved by their department. Loudoun County has advised this office that they have performed rough-in inspections of the new stairway.

Your e-mail also states that NTA certified that the home has a 200-amp electrical service, although in actuality the home has two 200 amp electrical services. The building plans that Integrity submitted to NTA for approval show one 200-amp panel along with calculations for one 200-amp panel. It appears that the second 200-amp panel was shipped loose with the home for the wiring of site installed equipment and outlets. The Loudoun County building department is the authority having jurisdiction for the site installation and wiring of this panel.

As this office is unable to proceed further with this case this file will be administratively closed.

Pursuant to section 13 VAC 5-91-70 of the Virginia Industrialized Building Safety Regulations any person aggrieved by the Department of Housing and Community Development's (DHCD) application of this chapter shall be heard by the State Review Board established by §36-108 of the Code of Virginia. Such appeal shall be submitted within 21 calendar days of receipt of DHCD's decision. A copy of the decision of DHCD to be appealed shall be submitted with the application for appeal. Failure to submit an application for appeal within the time limit established by this section shall constitute acceptance of DHCD's decision. For your convenience, I have enclosed an application.

Please contact me at 804-371-7150 or by email at cindy.davis@dhcd.virginia.gov if you have any questions regarding this matter.

Sincerely,



Cindy L. Davis
State Building Codes Director

Attachment

C: Christopher Thompson, Loudoun Co.,
Emory Rodgers
Eric Leatherby

Rudnitsky & Hackman, L.L.P.

Attorneys at Law

Courtyard Offices
1372 N. Susquehanna Trail, Suite 130
Sellersville, Pennsylvania 17870

Telephone (570) 743-2333

Fax (570) 743-2347

www.rudnitskyhackman.com



May 30, 2012

Eric Leatherby, Sr. Construction Inspector II
Commonwealth of Virginia
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Re: Malari Madison
Integrity Building Systems, Inc.
Pre-manufactured Home
40153 Janney Street
Waterford, VA 20197

Dear Mr. Leatherby:

Please allow this correspondence to serve as a response to your letter dated May 8, 2012 and to memorialize our conversation on May 29, 2012 regarding the above-referenced matter.

In response to our evaluation of this matter, my client, Milton Home Systems, Inc., has made a monetary settlement offer to Mrs. Madison. I am awaiting a response from Mrs. Madison regarding said offer. Please be advised that any report or information provided to me by my expert, Mr. Tompos, is confidential and privileged work product and will not be provided to any parties to this matter.

Please feel free to contact me with any questions or comments.

Very truly yours,

RUDNITSKY & HACKMAN, L.L.P.

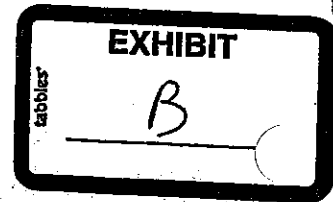
KENNETH G. POTTER

Email to potter@rudnitskyhackman.com

KGP:peb

cc: Integrity Madison Leatherby 5.30.12

THIS CORRESPONDENCE IS FOR PURPOSES OF SETTLEMENT NEGOTIATIONS ONLY AND CANNOT BE USED FOR LITIGATION IN ANY WAY OR MANNER.



COMMONWEALTH of VIRGINIA

Office of the Attorney General

Kenneth T. Cuccinelli, II
Attorney General

February 15, 2013

900 East Main Street
Richmond, Virginia 23219
804-786-2071
FAX 804-786-1991
Virginia Relay Services
800-828-1120
7-1-1

Milari Madison
40153 Janney Street
P.O. Box 302
Waterford, Virginia 20197

Re: Appeal to State Technical Review Board

Dear Ms. Madison:

As you are aware, your appeal of the State Building Code Administrative Office's ("SBCAO") initial decision not to proceed on your consumer complaint against NTA, Inc., and Integrity Building Systems, Inc. ("Integrity"), now known as Milton Home Systems, Inc. ("Milton"), is scheduled to be heard by the State Technical Review Board ("TRB") on March 15, 2013. On behalf of the SBCAO, I write to summarize the current status of these proceedings and confirm the SBCAO's position on what issues are on appeal. In addition, since the appeal, you have forwarded several e-mails which appear to raise issues regarding the construction of your modular home that are outside the scope of your appeal. In an effort to clarify the issues you have raised, I will set forth the SBCAO's understanding below.

I. The Appeal

As you are aware, in a Complaint Form dated December 15, 2011, you described multiple concerns regarding the home you purchased from the company known as Integrity at the time of your purchase. By letter dated August 20, 2012, the SBCAO formally declined to act on your complaint because the SBCAO understood at the time that Integrity was no longer in business. The SBCAO was unaware that Integrity still existed as a corporate entity and had changed its name to Milton. You appealed this decision to the TRB by completing an Application for Administrative Appeal ("Application") on September 5, 2012. The relief you seek in your Application is for the TRB to require the SBCAO to issue a Notice of Violation to Milton for any violations of the Virginia Industrialized Building and Safety Regulations ("IBSR").

As you also are now aware, the SBCAO has since determined that Integrity continues to exist and is now known as Milton. On November 19, 2012, the SBCAO sent a letter to Milton

directing it to investigate your complaint with regard to the residential code violation that the SBCAO observed in an inspection on April 9, 2012, and that the SBCAO understands continues to exist. Specifically, the SBCAO directed Milton to investigate the lack of required headroom in the stairway from the first floor to the second floor.¹ The SBCAO has provided you with a copy of that letter. Milton has responded, and the SBCAO intends to continue working with Milton in an effort to address the code violation observed by the SBCAO. Thus, it is the SBCAO's position that a hearing on the issue of whether the SBCAO can direct Milton to address code violations is unnecessary as that issue is now moot.

The other issue identified in your appeal is your request that the TRB require the SBCAO to issue a Notice of Violation to NTA, Inc., presumably because of its role as the Compliance Assurance Agency ("CAA") with regard to Milton. As previously explained to you, the IBSR grants the SBCAO authority to require manufacturers to correct code violations. The IBSR does not contemplate requiring a CAA to correct such violations. For this reason, the SBCAO has not directed NTA to correct any alleged code violation in your home. As for the specific issue you have raised regarding NTA's certification that your home was wired for 200 amp service when it was wired for 400 amp service, the data plate can be corrected to reflect 400 amp service. Thus, it is the SBCAO's position that, even if the SBCAO could issue a notice of violation to NTA, a hearing on this issue is unnecessary and a correction to the data plate moots the appeal.

II. Code Compliance of the Home

In an effort to provide assistance to you and to verify any potential building code violations caused during the construction of the home in the factory, on April 9, 2012, SBCAO personnel visually inspected your home. The Loudoun County Building Inspector, representatives from NTA and Milton, and you attended this inspection. The only violations observed were improper headroom in the stairways from the first to second floor and second floor to attic, and an inconsistency between the building plans showing 200 amp electrical service and the home's two 200 amp breaker panels for a total of 400 amp service.²

III. Additional Issues

In addition to the issues raised in your appeal and the observations made during the April 9, 2012 inspection of your home, you have raised several other issues in multiple e-mails to SBCAO personnel. It appears that your January 27, 2013 e-mail summarizes these additional issues. Your Application does not identify these issues as part of your appeal. But, in an effort

¹ As noted in the November 19, 2012, letter, the SBCAO understands from discussions with Mr. Christopher Thompson, Loudoun County Building Department, that the stairway from the second floor to the attic has been removed and that plans have been submitted and approved by Loudoun County for a code complying stairway that is in the process of being installed.

² The only other violation noted by the Loudoun County Building Inspector involved temporary treads and open risers in the stairs leading to the wing off the kitchen. This potential violation had been corrected at the time of the SBCAO's inspection.

to make sure the SBCAO understands your concerns, I will address each issue below and provide you with the SBCAO's position.

A. Stairs to the Attic

In your e-mail, you state that, according to your telephone conversation with an unidentified former Integrity staff person who assisted with the set of the house, "the stairs from the second floor to the third floor were installed at the factory." This information is inconsistent with the information provided by Milton and the information in Milton's records on the home. In addition, it is the SBCAO's experience that manufacturers typically ship stairways loose, to be installed at the site. Regardless, the SBCAO is addressing this issue with Milton. While it appears based on visual inspection that the headroom violation is caused by a design flaw for which the manufacturer is responsible, the SBCAO is giving Milton the opportunity to provide evidence supporting its claim that the stairway was improperly installed. Likewise, the SBCAO is giving you the opportunity to provide the name and contact information of the staff person who believes that the stairs were installed at the factory. Please provide that information at your earliest convenience.

B. Data Plate

In your e-mail, you state that the data plate for the home is incorrect because the home came with 400 amp service. As noted above, and at the informal fact finding conference you attended, the data plate can be corrected to reflect 400 amp service instead of 200 amp service.

C. Setting of the House

In your e-mail, you state that "[t]he house has not been bolted at the marriage walls, inconsistent with the manufacturer's installation procedures (code violation), causing significant ongoing defects." You also state that, according to the unidentified former Integrity employee, "the house sun room was not bolted together, so he minimally bolted it when he set the windows." To the extent the house has defects that arise from improper setting of the house or improper installation of its components in a manner that is inconsistent with the manufacturer's installation procedures, such defects should be addressed by the local building inspector. The SBCAO addresses code violations arising from the manufacture of the home, not those arising from improper installation.

D. Engineering/Design Documents

In your e-mail, you state that "[t]he engineering work was not 'sealed' or stamped." The SBCAO is unaware of any IBSR violation arising from engineering documents not being "sealed" or "stamped." Certainly if you have evidence to show that the engineering documents for your home give rise to a violation, please provide the evidence and identify the regulation you believe applies.

E. Unlicensed Installers

In your e-mail, you state that Milton and McNutt, the contractor you hired to install the home, "were unlicensed . . . and not certified in Virginia by the SCC." The SBCAO does not regulate the licensing of contractors or the certification of companies doing business in Virginia.

F. Second Floor to Attic Wall

In your e-mail, you state that "Milton staff demolished the wall from the second floor to the unfettered and unguarded third floor causing additional dangerous conditions and hot electric wires." It is our understanding that the stairs were removed because they were in violation of applicable codes and that Loudoun County has approved drawings for a new, site constructed set of stairs. Assuming this process is being carried out and new stairs are installed, this is a moot issue.

G. Guardrails

In your e-mail, you state that "[n]o guardrails were installed." The SBCAO is unsure what this means and therefore it cannot address this complaint.

F. "Thermal Envelop" [sic]

In your e-mail, you state that "[n]o thermal envelop [sic] was provided, also causing the R-value calculations to be wrong on the current data plate. Barlow engineering properly calls the space a third floor. The lack of a proper thermal envelop [sic] is inconsistent with the manufacturer's installation instructions." In an e-mail dated June 12, 2013 to Martin Sickles, you stated, "As you know, *I intend to finish the attic area* of the main block, 43 x 30." (emphasis added). Thus, you were responsible for obtaining permits to finish the attic.

IV. Conclusion

The SBCAO wants to address your concerns, enforce the IBSR and seek correction of any IBSR violations. But the SBCAO cannot address problems that do not give rise to an IBSR violation or problems with entities that are not regulated by the SBCAO. If you have any evidence you can provide of an IBSR violation, including any reports arising from any inspections of your home, the SBCAO encourages you to provide such evidence so that the SBCAO can consider it. Otherwise, you may consider the above discussion as an outline of the SBCAO's current understanding and position on the matters you have raised, based on information available to the SBCAO.

Milari Madison
February 15, 2013
Page 5 of 5

Sincerely,

A handwritten signature in black ink, appearing to read "Mike F. Melis". The signature is fluid and cursive, with the first name "Mike" and last name "Melis" clearly distinguishable.

Mike F. Melis
Assistant Attorney General

cc: Cindy Davis
Vernon Hodge
Alan McMahan
Chris Thompson
Gina Schaecher, Esq.



Robert F. McDonnell
Governor

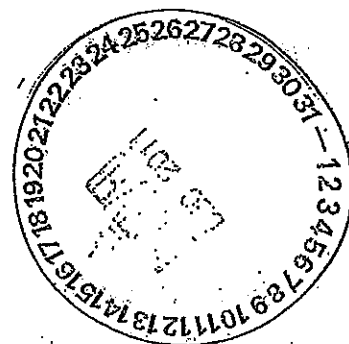
James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

DEPARTMENT OF
HOUSING AND COMMUNITY DEVELOPMENT

William C. Shelton
Director

INDUSTRIALIZED BUILDING CONSUMER COMPLAINT FORM



Name of person(s) requesting assistance in resolving dispute: (please print)

Milari Madison

Building Project Information:

Owner: Milari Madison
Site Location-Street address: 40153 Janney Street
City: Waterford State: Virginia Zip code: 20197
Daytime phone: 540-882-3160 Evening or weekend phone: same
E-mail address: huntermadison2002@yahoo.com
Date Certificate of Occupancy issued: not Date purchased: May 5, 2011
Date delivered to site location: July 2011

Additional information - mailing address if different from site address:

Name: _____
Street Address: _____
City: _____ State: _____ Zip code: _____
Daytime phone: _____ Evening or weekend phone: _____
E-mail address: _____

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www.dhcd.virginia.gov

Main Street Centre • 600 East Main Street, Suite 300 • Richmond, Virginia 23219 • Phone (804) 371-7000 • Fax (804) 371-7090 • Virginia Relay 7-1-1

EXHIBIT

C

231

Manufacturer of building:

Name of manufacturer: Integrity Building Systems (Now a division of Icon Legacy)

Name of contact person at plant (if known): Marty Sickle at Integrity, Dan Stimely at Icon Legacy

Street address: _____

City: _____

State: _____

Zip code: _____

Telephone: _____

Data Plate Information:

Serial number: IBS Serial # 01-0611-1991ABCDEFGHI

Virginia certification seal No.: NTA Seal # F2-336766 thru 336774, NTA Seal # F2-336772-1991G, NTA Seal # F2-336773-1991H, NTA Seal # F2-336774-1991I

Date manufactured: July 2011

Building purchased from:

Name: Darren McNutt at Convenient Installations and Martin Sickle and Glenn Salsman at Integrity Building Systems under a Performance Agreement to include all aspects of sale, set, delivery and warranty

Name of contact person: Martin Sickle of IBS, Dan Stimely of Icon Legacy (the receptionists states the "merged").

Street address: 246 Sand Hill Road

City: Selinsgrove

State: PA

Zip code: 17870

Telephone: 570.374.3280

E-mail address: Dan Stimely <dans@iconlegacy.com>

Have you contacted the (manufacturer, retailer or installer) regarding your complaint?

Yes If Yes please specify below:

Person/firm contacted: Daren McNutt at Convenient Installations, Dan Stimely at Icon Legacy, Martin Sickle, Glenn Salsman and Richard Rowe at Integrity Building Systems, David Tompos at NTA Inc.

Date(s) Contacted: Many

In writing or by phone? Both

The house was improperly set by Convenient (Performance assumed by Integrity). Neither party is licensed in Virginia to set modular and to perform general contracting services. DPOR has issued an arrest warrant for Darren McNutt. Integrity promised to fix a number of the items; including open building code violations for the stairs from the first floor to the second floor, the kitchen to the lower west wing, and the first floor head room to the second floor is short 2" per code. In addition, they failed to deliver a weather proof house, which in the Integrity letter to us is the responsibility of the builder/installer, so we incurred extensive water damage.

[Please attach additional pages as necessary]

Attach copies of all written correspondence to or from the manufacturer, retailer, installer, or owner.
Also, attach copies of any other documentation to support your dispute. Please note these documents will not be returned.

Print Name of person submitting complaint: Milari Madison

Signature: _____ Date: December 15, 2011

Return this form and attachment documents to:

Department of Housing and Community Development
State Building Code Administrative Office
600 East Main Street
Suite 300
Richmond, VA 23219-1321
(804) 371-7160

Description of concerns:

The overhangs did not match up, unit to unit. They built some out further, but what was built out was shoddy, uneven, and had to be re-done.

Floors are not level from certain rooms. Units not "square".

The west wing wall to support the brick (on the main block) was built out for support purposes. They failed to build it out per the drawing stamped by NTA Inc, and failed to extend the roof sheathing to close in the 8" gap. Rain and water poured in.

The west wing never came close to matching the kitchen so that marriage wall was re-built and the interior kitchen pantry closet was built out and was not square.

The wall from the kitchen to the den was built out, and was not square or level.

The stairs were built out utilizing scraps and are of unequal heights.

The chimney chase area was built out and the portion sitting on the roof. Floor joists were cut to accommodate the necessary pipe (which was again inadequately done).

They set the fireplace units into the opening which required reworking of the 2 x 4's.

Demolished the wall from the second floor to the attic, causing very hazardous conditions.

Built out framing for certain windows that are/were the wrong size so they did not fit (Installed anyway).

Built out/installed the collar ties (not level).

Built out certain roof areas where sheathing was not level. This was a complete failure leaving me with ripples and humps in the roof and huge holes for water to pour in resulting in black mold.

Built out partial attic framing on site where it was incomplete.

And what was not done (or a complete failure), under the contract and performance agreement assumed by Integrity is significant. The modules were approved by NTA as meeting applicable code which was/is not true.

Failed to level out the roof mostly at hinges. Repair cost nearly \$15,000 and still has bumps.

Failed to deliver house where doors could be installed.

Cracked, broken and missing windows and trim.

Short crown molding.

Short chimney chute material. Chute did not meet code. Repair and install cost \$1525.

Missing exterior sheathing.

Failed to be weather proof.

Existing building code violations

Performed work although unlicensed

Induced to sign contract based on false and illegal promises

Overall quality is poor and roof has humps

Cost to "fix" certain problems has been approximately \$100,000

[Please attach additional pages as necessary]



FILE COPY

Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

William C. Shelton
Director

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

December 29, 2011

Ms. Milari Madison
40153 Janney Street
Waterford, VA 20197

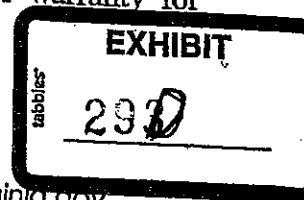
Dear Ms. Madison,

The State Building Code Administrative Office has been designated by the Virginia Department of Housing and Community Development to enforce the Virginia Industrialized Building Safety Regulations and acts as the building official for registered industrialized buildings, commonly referred to as modular homes. As the building official we are authorized to cite the manufacturer for building code violations that are introduced during production in the factory. Building code violations caused by others after the home has left the factory are under the jurisdiction of the local building official.

I have reviewed the complaint that you recently submitted to this office concerning your home that was manufactured by Integrity Building Systems, Milton, PA. The complaint contains potential violations that appear to have been caused by the manufacturer and also by the contractor that installed the home.

Procedurally when this office receives a complaint with factory related violations we forward the complaint to the manufacturer and ask for a plan of corrective action. If the manufacturer does not correct the building code violations a notice of violation is issued compelling them to take corrective action. Unfortunately, this office received notice from Integrity Building Systems on October 21, 2011 stating that effective November 17, 2011 they were ceasing all operations and that their assets were being sold to Icon Legacy Custom Modular Homes, of Selinsgrove, PA.

I contacted Mr. Dan Stimely, CEO of Icon Legacy Custom Homes and inquired if the acquisition of Integrity's assets included honoring the warranties for homes built by Integrity. He responded that they had only purchased materials and equipment from Integrity and that "Icon Legacy Custom Modular Homes, LLC will not take responsibility for any product or warranty for Integrity Building Systems".

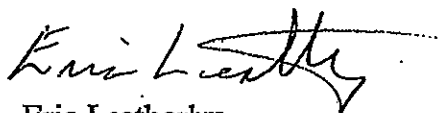


As Integrity Building Systems is no longer in business we are unable to cite the manufacturer for the potential violations listed in your complaint.

I regret that we are unable to assist you in this matter. Therefore this file will be administratively closed.

Please contact me at 804-371-7165 if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Leatherby". The signature is stylized with a large, sweeping "E" and a cursive "L".

Eric Leatherby
Sr. Construction Inspector II
State Building Code Administrative Office

cc: Christopher Thompson, Loudoun Co.

File Report

April 9, 2012

Subject: Site inspection of Milari Madison home.
40153 Janney Street
Waterford, VA 20197
Serial number -01-0611 A thru I
VA seals numbers - 2011-0695 thru 2011-0703

Note to file: The above referenced home was manufactured by Integrity Building Systems of Milton Pennsylvania on July 14, 2011. The home was site installed by Convenient Installations of Ranson, West Virginia on July 20, 2011.

The homeowner filed a consumer complaint with the SBCAO on December 15, 2011 against Integrity. The consumer complaint was closed on December 29, 2011 because the manufacturer, Integrity Building Systems had notified the SBCAO on October 21, 2011 that they were going out of business on November 17, 2011.

The SBCAO was notified by NTA that they were conducting a site inspection of the home on April 9, 2012 at the request of Milton Homes, which is owned by the former owners of Integrity. Although the complaint file had been closed, in an effort to assist the homeowner the SBCAO participated in the site inspection to verify potential building code violations caused during the construction of the home in the factory. The Loudoun County Building Department had previously noted potential violations as:

1. Stairs leading to wing off of kitchen – treads were temporary and did not meet the profile requirements and had open risers in excess of 4 inches.
2. Stairways to the second and third floors did not meet the requirements of section R311.5.2 headroom.
3. Ms. Madison also complained that the home was certified for a 200 amp service but was provided with a 400 amp service.

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EXHIBIT

E

Present during the inspection:

Milari Madison – Homeowner
Chris Thompson, Loudoun Co. Building Department
Eric Tompos, P.E., NTA Inc..
Ken Potter, Rudnitsky & Hachman
Cindy Davis, SBCAO
Eric Leatherby – SBCAO

Observations

1. Stairs to wing off kitchen were site constructed and the openings between treads had been filled.
2. Stairway to second floor. Headroom measured approx. 6'-4" when measured with diagonal plane and 6'-8" when measured vertically. The headroom for the stairway to the third floor was approx. 4' near the top of the stairs due to the slope of the roof rafters.
3. Electrical service. The building plans and electrical calculations approved by NTA show a 200 amp service. Observed 2- 200 amp breaker panels mounted in the basement. One breaker panel appears to have been wired for factory installed outlets and fixtures and the other panel box appears to have been wired for site installed outlets and equipment. It appears that one panel box was shipped loose from the factory for the wiring of site installed fixtures and equipment.
4. Observed other non building code cosmetic items such as drywall blemishes, loose and missing trim, etc.

Eric Leatherby
Sr. Construction Inspector II
State Building Code Administrative Office



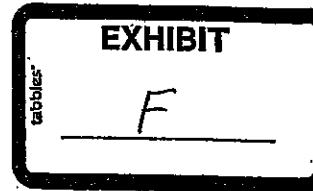
Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

William C. Shelton
Director



August 20, 2012

Ms. Milari Madison
40153 Janney Street
Waterford, VA 20197

Dear Ms. Madison,

I am in receipt of your August 16, 2012 e-mail regarding your modular home complaint. You have requested that this office provide you with "any document sent to NTA directing the correction of the building code violations" at your property. Please be advised that this office has not sent any documents to NTA directing them to correct any building code violations.

As you are aware, based on past correspondence and conversations, the State Building Codes Office acts as the building official for registered industrialized buildings, commonly referred to as modular homes. As the building official this office is authorized to cite the manufacturer for building code violations that are introduced during production in the factory. NTA is not the manufacturer of your home and therefore this office cannot direct them to correct building code violations caused by another entity. Integrity Building Systems, Inc. manufactured your home and would be the proper party to cite for any factory violations. However as we previously reported to you, this office received notice from Integrity Building Systems on October 21, 2011 that effective November 17, 2011 they were ceasing all operations and their assets were being sold to another manufacturer. As Integrity Building Systems is no longer in business we are unable to cite the manufacturer for the potential violations listed in your complaint.

It is our understanding that individuals associated with Integrity Building Systems later formed a new and unrelated business entity called Milton Home Systems, Inc., based on the information you provided. This office cannot cite Milton Homes Systems as they did not manufacture your home.

The primary issue contained in your December 15, 2011 complaint to this office was the insufficient headroom provided in the stairway to the third story of your home. The Loudoun County building department had previously cited this as well as insufficient headroom in the stairway leading to the second story as violations caused by the manufacturer.

In an effort to assist you in resolving your complaint, representatives from this office, the Loudoun County building department, NTA and Milton Homes met at your home on April 9, 2012 to verify the cited building code violations and seek a possible resolution.

Correspondence dated May 30, 2012 from the attorney representing Milton Home Systems, Inc. stated that a monetary settlement had been offered to you to resolve your issues with Integrity Building Systems, Inc. (see attached). The Loudoun County Building Department subsequently advised this office that work was being performed to construct a new stairway to the top story of your home, based on plans that had been reviewed and approved by their department. Loudoun County has advised this office that they have performed rough-in inspections of the new stairway.

Your e-mail also states that NTA certified that the home has a 200-amp electrical service, although in actuality the home has two 200 amp electrical services. The building plans that Integrity submitted to NTA for approval show one 200 amp panel along with calculations for one 200 amp panel. It appears that the second 200 amp panel was shipped loose with the home for the wiring of site installed equipment and outlets. The Loudoun County building department is the authority having jurisdiction for the site installation and wiring of this panel.

As this office is unable to proceed further with this case this file will be administratively closed.

Pursuant to section 13 VAC 5-91-70 of the Virginia Industrialized Building Safety Regulations any person aggrieved by the Department of Housing and Community Development's (DHCD) application of this chapter shall be heard by the State Review Board established by §36-108 of the Code of Virginia. Such appeal shall be submitted within 21 calendar days of receipt of DHCD's decision. A copy of the decision of DHCD to be appealed shall be submitted with the application for appeal. Failure to submit an application for appeal within the time limit established by this section shall constitute acceptance of DHCD's decision. For your convenience, I have enclosed an application.

Please contact me at 804-371-7150 or by email at cindy.davis@dhcd.virginia.gov, if you have any questions regarding this matter.

Sincerely,



Cindy L. Davis
State Building Codes Director

Attachment

C: Christopher Thompson, Loudoun Co.
Emory Rodgers
Eric Leatherby

Rudnitsky & Hackman, L.L.P.

Attorneys at Law

Courtyard Offices
1372 N. Susquehanna Trail, Suite 130
Selinsgrove, Pennsylvania 17870

Telephone (570) 743-2333

Fax (570) 743-2347

www.rudnitskyhackman.com



May 30, 2012

Eric Leatherby, Sr. Construction Inspector II
Commonwealth of Virginia
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Re: Malari Madison
Integrity Building Systems, Inc.
Pre-manufactured Home
40153 Janney Street
Waterford, VA 20197

Dear Mr. Leatherby:

Please allow this correspondence to serve as a response to your letter dated May 8, 2012 and to memorialize our conversation on May 29, 2012 regarding the above-referenced matter.

In response to our evaluation of this matter, my client, Milton Home Systems, Inc., has made a monetary settlement offer to Mrs. Madison. I am awaiting a response from Mrs. Madison regarding said offer. Please be advised that any report or information provided to me by my expert, Mr. Tompos, is confidential and privileged work product and will not be provided to any parties to this matter.

Please feel free to contact me with any questions or comments.

Very truly yours,

RUDNITSKY & HACKMAN, LLP

KENNETH G. POTTER

Email to potter@rudnitskyhackman.com

KGP:pcb
u:\integrity\madison\leatherby.5.30.12.

THIS CORRESPONDENCE IS FOR PURPOSES OF SETTLEMENT NEGOTIATIONS ONLY AND CANNOT BE USED FOR LITIGATION IN ANY WAY OR MANNER.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcMahon@dhdcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- ☐ Uniform Statewide Building Code
- ☐ Statewide Fire Prevention Code
- ☐ Industrialized Building Safety Regulations
- ☐ Amusement Device Regulations

Appealing Party Information (name, address, telephone number and email address):

Opposing Party Information (name, address, telephone number and email address of all other parties):

Additional Information (to be submitted with this application)

- ☐ Copy of enforcement decision being appealed
- ☐ Copy of record and decision of local government appeals board (if applicable and available)
- ☐ Statement of specific relief sought

CERTIFICATE OF SERVICE

I hereby certify that on the _____ day of _____, 201_, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: _____

Name of Applicant: _____
(please print or type)



Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

William C. Shelton
Director

November 19, 2012

Mr. Richard R. Rowe Jr.
Milton Home Systems, Inc.
2435 Housels Run Road
Milton, PA 17847

RE: Consumer complaint – Milari Madison vs Integrity Building Systems, Inc.
Industrialized Building Serial #01-0611 A thru I

Dear Mr. Rowe,

The Virginia State Building Codes Office has been designated by the Department of Housing and Community Development to enforce the Virginia Industrialized Building Safety Regulations and acts as the building official for Virginia registered industrialized buildings.

This office received a complaint from the above referenced consumer regarding potential building code violations that may have been introduced into her home during construction by Integrity Building Systems, Inc.

The above referenced home located at 40153 Janney street, Waterford, VA was constructed by Integrity Building Systems, Inc. on July 14, 2011, (see attached data plate).

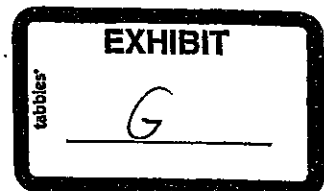
Correspondence from the law firm Rudnitsky & Hackman, L.L.P. dated February 10, 2012, states that Milton Home Systems, Inc. is "successor by name change to Integrity Building Systems, Inc." Information from the Pennsylvania Department of State confirms that Integrity Building Systems, Inc. was incorporated on April 22, 1999, and filed Articles of Amendment on November 16, 2011, changing its name to Milton Home Systems, Inc. effective November 17, 2011.

A site inspection of the home constructed by Integrity Building Systems, Inc., now known as Milton Home Systems, Inc., was conducted by this office on April 9, 2012 and the following violations to the 2009 edition of the Virginia Residential Code (VRC) were observed:

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www.dhcd.virginia.gov



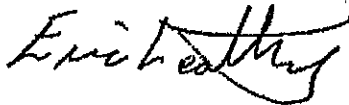
- Section R311.7.2 of the VRC requires that the minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches. It was observed that the headroom in the stairway leading from the first floor to the second floor was 6 feet 4 inches measured vertically from the sloped line adjoining the tread to the stairway header. Additionally, the headroom in the stairway from the second floor to the third floor/attic was approximately 4 feet measured vertically from the tread to the stairway header.

It is my understanding from discussions with Mr. Christopher Thompson, Loudoun County Building Department, that the stairway from the second floor to the third floor/attic has been removed and that a code complying stairway is in the process of being installed.

Please investigate this complaint to determine the source of the problem and report your findings and plan of corrective action to this office within 20 days.

I can be reached at 804-371-7165 if you have any questions regarding this matter.

Sincerely,



Eric Leatherby
Sr. Construction Inspector II

cc: Milari Madison
Christopher Thompson

INTEGRITY BUILDING SYSTEMS, INC.
2808 HOUSES RUN ROAD
MILFORD, PA 17847

VIRGINIA MODULAR DATA SHEET

Modular Home Model C-484709-2

State Label No. (a) VA 2011-0695 thru

VA 2011-0703

Label location as noted on approved plans.

Modular Home Serial # 01-0811-1891A thru

Date of Manufacture 7/14/2011

NTA, Inc. Label No. (a) P2-336768 thru 336774

ELECTRICAL

Concealed Wiring Consists of Nonmetallic Sheathed Cable or Service Entrance Cable
Service panel: 200 amp; 120/240 V, single phase, 3 wire, 60 hertz/ø

FACTORY INSTALLED APPLIANCES:

MANUFACTURER

MODEL

Water Baseboard

N/A

Heater

EL48

Water Heater

N/A

Refrigerator

N/A

Stove

N/A

Washing Machine

N/A

Dishwasher

N/A

Central Air Conditioning

N/A

Central Heating

N/A

Central Vacuum

N/A

Central Water Treatment

N/A

Central Water Filtration

N/A

Central Water Softening

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Central Water Cooling

N/A

Central Water Filtration

N/A

Central Water Softening

N/A

Central Water Heating

N/A

Central Water Cooling

N/A

DESIGN CONDITIONS

Building Area 3,799 SQ FT
Roof Live Load 30 PSF
Roof Dead Load 10 PSF
Use Group R5
Construction Type VB
Wind-Borne Debris 30 PSF

Distance to Lot Line N/A FT (Min)
Wind Zone / Exp. Cat. 300 MPH
Seismic Zone B
Building Height 2 STORY
Floor Live Load 40 PSF
Floor Dead Load 10 PSF

CODE COMPLIANCE - This unit is constructed in accordance with the following Virginia State codes.

1. ICC International Building Code 2009 Edition
 2. ICC International Plumbing Code 2009 Edition
 3. ICC International Mechanical Code 2009 Edition
 4. NFPA 70 National Electrical Code 2008 Edition
 5. ICC International Residential Code 2009 Edition
 6. ICC International Energy Conservation Code 2009 Edition
- Partial installation of sprinkler system at manufacturing facility with completion onsite by others.
Complete sprinkler system installed onsite by others.

DESIGN

Design Temperature

Design Wind Speed

Design Snow Load

Thermal Transmittance Values

Roof U-Value

Floor U-Value

Wall U-Value

Door U-Value

Window U-Value

ITEMS SUBJECT TO LOCAL INSPECTION

ELECTRICAL

1. Interconnection between modules.
2. Service entrance entrance and grounding electrode conductors.
3. Fire Warning equipment is to be installed and tested for proper operation - see equipment instructions.

PLUMBING

1. All piping below first floor.
2. Witness leakage test of gas, DWV and water supply systems.
3. Connection to gas, sewer and water utilities.
4. Sprinkler system when required by local jurisdictions.

HEATING

1. Complete forced air system.

STRUCTURE

1. The design and construction of the foundation system.
2. Completion of exterior siding at end walls.
3. Installation of gable or ridge vents.
4. Floor insulation installation.
5. Connection of floor system (see installation instructions).
6. Connection of roof system (see installation instructions).
7. Connection of modules to foundation (see installation instructions).

KASIMER & ANNINO, P.C.

TYSONS OFFICE PARK

7653 LEBESBURG PIKE

FALLS CHURCH, VIRGINIA 22043

(703) 893-3914

FACSIMILE (703) 893-6944

WEB ADDRESS:

www.kasimnrlaw.com

REPLY TO: TYSONS OFFICE

GINA L. SCHAECHER

gschaecher@kasimnrlaw.com

LEESBURG AREA OFFICE:

39959 CATOCTIN RIDGE ST.

3RD FLOOR

PACONIAN SPRINGS, VA 20129

540-882-4747

December 9, 2012

**VIA FACSIMILE (804) 371-7090
& FIRST CLASS U.S. MAIL**

Mr. Eric Leatherby
Senior Construction Inspector II
Commonwealth of Virginia
Department of Housing and
Community Development
Main Street Centre
600 East Main Street, Suite 300
Richmond, Virginia 23219

**Re: November 19, 2012 letter concerning consumer complaint
Milari Madison v. Integrity Building Systems, Inc.**

Dear Mr. Leatherby:

This firm represents Milton Home Systems, Inc.'s interests with respect to the above-noted matter. Your November 19, 2012 letter was forwarded to our attention by Assistant Attorney General Michael Melis on December 6, 2012. We understand that the letter was returned to your office as undeliverable due to an incorrect address for Milton Home Systems, Inc. Consequently, we were unaware of your November 19th correspondence until December 6th, and therefore unable to respond to you any earlier than today. However, we can assure you that once we received a copy of your letter we immediately consulted with our client and made every effort to prepare a complete and timely response.

The information provided below is in response to the matters raised in your November 19, 2012 correspondence. With regard to the modular home located at 40153 Janney Street, Waterford, Virginia, Integrity Building Systems, Inc. manufactured modular units which were ordered by Darren McNutt doing business as Convenient Installations. Mr. McNutt entered into a contract with Milari Madison in which Mr. McNutt agreed to sell, deliver and set modular units purchased by Ms. Madison on Ms. Madison's property. A true and correct copy of Mr. McNutt's contract with Ms. Madison is attached hereto and incorporated herein by reference as Exhibit "A." As clearly stated in Mr. McNutt's contract, Mr. McNutt is only responsible for the delivery and set of the units and customer, referring to Ms. Madison, is responsible for the modular after the set. See Exhibit "A" at p. 1.

EXHIBIT

tabbies

H

Mr. Eric Leatherby
Department of Housing and
Community Development
December 10, 2012
Page 2

In order to assure the delivery and set of the modular units, Integrity Building Systems, Inc. agreed to deliver and set the modular units should Mr. McNutt, Convenient Installations, fail to complete delivery or installation of the units at Ms. Madison's property. A true and correct copy of Integrity Building Systems, Inc.'s Performance Agreement with Ms. Madison is attached hereto and incorporated herein by reference as Exhibit "B." As clearly stated in Integrity Building Systems, Inc.'s Performance Agreement, should Convenient Installations fail to perform its obligations under its contract with Ms. Madison, Integrity Building Systems, Inc. shall perform the limited obligations of delivering and setting the modular units at Ms. Madison's property. Integrity Building Systems, Inc. agreed to deliver and set only if Mr. McNutt and Convenient Installations failed to perform these, and only these obligations.

Since the time that the modular units were delivered and set at Ms. Madison's property, Ms. Madison has raised various and sundry complaints about the build out of the modular units, complaints that do not concern the delivery or set of the modular units at Ms. Madison's property. Consequently, Integrity Building Systems, Inc. was not aware of any obligation or responsibility to take any action in response to Ms. Madison's complaints concerning work that was to be done by others after the modular units were set at Ms. Madison's property.

Although not obligated to do so, in an effort to resolve and settle any and all issues with Ms. Madison, Integrity Building Systems, Inc. had offered to address the items that Ms. Madison maintained were somehow problematic; however, every and all efforts offered by Integrity Building Systems, Inc., including but not limited to the payment for remedial work, were rejected, refused and prohibited by Ms. Madison. Specifically, Ms. Madison has refused any offer of assistance with respect to the stairs to be installed between the first and second floor of the modular, and has prevented and precluded Integrity Building Systems, Inc. from taking any action to address and remedy any alleged violation with respect to these stairs. Instead, Ms. Madison has filed a legal action against Milton Home Systems, Inc. seeking a full refund of the purchase price for the modular units.

As we explained at the initial informal fact finding conference, Integrity Building Systems, Inc. did indeed change its name to Milton Home Systems, Inc., and Ms. Madison has filed a civil action against Milton Home Systems, Inc. Consequently, to the extent that there was anything that Milton Home Systems, Inc. was obligated to do in order to address the alleged violation stated in your November 19, 2012 letter, we submit that Ms. Madison will not allow and will actively prevent any remedial action.

With respect to the violation identified in your letter, Milton would require additional information in order to fully and completely respond as it is unclear from your correspondence as to the cause of the headroom deficiency reported in your letter.

Mr. Eric Leatherby
Department of Housing and
Community Development
December 10, 2012
Page 3

Typically, diminished headroom occurs when the stairs are not properly installed such that the stairs are not positioned completely against the wall. The headroom at a staircase may also be impacted if the framing is not correctly installed. Without seeing the condition reported in your letter, Milton cannot comment on any cause our proposed remedy. In this regard, we do reiterate that Integrity Building Systems, Inc. was only the manufacturer of the modular units and was not the builder, nor was it responsible for the builder who attempted to install the stairs. Consequently, if this is an installation issue, which it appears to be, we respectfully submit that such installation issues were not within Integrity Building Systems, Inc.'s responsibility and therefore, are not Milton's responsibility.

If you maintain that the lack of headroom was a manufacturing issue, we request that you provide any and all such information that supports your position, including but not limited to any and all photographs or written statements, assessments, evaluations and/or reports identifying such as a manufacturing issue. If the lack of headroom does prove to be a manufacturing issue, Milton remains ready, willing and available to fully and completely address this matter and to remedy any violation that is determined to be a manufacturing issue.

To that regard, we are available to discuss this matter at your convenience. Otherwise, we ask that you kindly provide the requested clarification as to the cause of the diminished headroom described in your letter or that Milton otherwise be allowed to inspect the condition in order to fully and completely respond to your correspondence.

Respectfully,



Gina L. Schaecher
Counsel for Milton Home Systems, Inc.

GLS:lrw
Enclosures

cc: Richard R. Rowe, Jr. (via electronic transmission)
Martin Sickle (via electronic transmission)
Kenneth Potter, Esquire (via electronic transmission)
Michael Melis, Esquire (via electronic transmission)

EXHIBIT A

CONTRACT FOR MODULAR # C-484709

This is a contract for the sale, delivery, and set of a two story modular home.

Contractor: Convenient Installations Licensed and Insured
Darren McHutt
151 Thistle Ridge Ln. WV 040199
Rancho WV 25432

Customer: Milani Madison
39538 Rickard Road
Waterford, VA 20180

Installation address: 40153 Janney Street, Waterford, VA 20197

1. DESCRIPTION OF MODULAR COMPONENTS

Contractor agrees that the modular manufactured by Integrity Building Systems will consist of the following: refer to plans no-484709 for the elevation, foundation, and house design and refer to the quote sheet for the pricing, base price, upgrades, and eliminations. Contractor is only responsible for the delivery and set of the units and customer is responsible for completion of modular after set.

2. PAYMENT

All payments are to be made by cashiers check or money wire to Convenient Installations. Buyer is responsible to pay 100% of total amount due to place the modular units into production. A \$4,500.00 prior payment has been subtracted from the total; making the final total \$254,840.00.

3. DELIVERY AND SET SCHEDULE

Modular units, the roof panels, panels, and items determined to loose ship per the plans shall be delivered within four to six weeks to 40153 Janney Street from the date of Customer's approval and/or receiving of the final prints and receipt of payment. Contractor is not responsible for the foundation or excavating. Contractor is responsible for the accuracy and completeness of the plans, C-484709, and for confirming that the foundation is sufficient for the house design. Contractor will provide all necessary equipment and resources to set all of the modular units and panels on the foundation and to fully tie the modular units to each other including the roof panels, and the paneled sunroom to the foundation in accordance with any applicable industry standards, code and the manufacturer's specifications, including but not limited to a crane and set crew to remove the units off of the transports and onto the foundation. After the units have been set upon the foundation the set crew will bolt the units together in the basement, will fasten the units to the sill plate, assemble any paneled roof sections, and the sunroom panels. Customer will provide Contractor with a backhoe or dozer if necessary with prior notice (24

hours) by Contractor. Contractor represents and warrants that he has analyzed the house site and location (40552 Janney Street, Waterford, Virginia 20197) and determined that the manufacturer will be able to deliver the modular units to the house site and that Contractor will be able to completely set and install the modular units and roof panels at the house site.

4. DELAY

If a reason beyond the control of the Contractor delays the house setting, Contractor will promptly inform the Customer. If a delay arises related to the Customer's responsibility, Customer will promptly notify the Contractor and an extension of delivery shall be provided for to adequately accommodate the delay.

If Contractor is unable to set the house by July 30, 2011, due to lack of performance, Customer may cancel this contract and receive a full refund of all payments made under the contract.

5. WARRANTIES AND LIMITATIONS

These modular units have a one year structural warranty from the date of delivery. Contractor will perform its obligations under this contract in a good and workmanlike manner and in accordance with best industry practices. THERE ARE NO OTHER WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS AGREEMENT.

6. GUARANTEE OF PERFORMANCE

In the event Contractor fails to timely perform under this contract, upon notice to Contractor if applicable, Customer may have Contractor's obligations under this contract satisfied by Integrity Building Systems.

7. LAW AND VENUE

This Agreement, and any and all claims arising under this Agreement, shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard to its conflicts of law provisions. For the adjudication of any and all disputes no matter their nature arising under this Agreement, the parties hereby consent to personal jurisdiction and venue in the state and federal courts sitting in Northern Virginia, including but not limited to courts sitting in Loudoun County, Fairfax County and Alexandria, Virginia.

8. CONFIDENTIAL INSTALLATION

Contractor agrees not to disclose or follow the instructions of any third parties or bystanders during the installation of the modular units. The Contractor understands that bystanders may attempt to disrupt and delay the installation and Contractor agrees not to engage in discussions with, and shall ignore those bystanders.

9. COUNTERPARTS

This Agreement may be signed in any number of counterparts with the same effect as if the signature on each such counterpart were upon the same instrument, and a facsimile

FROM: PHILIP SNOW

FX NO. : 580 286 3545

May. 05 2011 10:39AM P1

May. 05. 2011 12:19 PM Madison

5408823160


PAGE. 3/ 4

Transmission or electronic delivery (e.g., pdf) of a manual signature shall be deemed to be an original signature.

10 ENTIRE AGREEMENT

I have read and agree to the following contract.

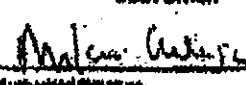
Unless agreed to by both parties in writing, if there are any changes made after the signing of this contract this contract is null and void and Customer is entitled to a full refund of amounts paid under this contract.

CONTRACTOR


Authorized Signature
Darren McNeill

Print Name and Title
May 5 - 2011

Date

CUSTOMER


Authorized Signature
Melara Madison, owner

Print Name and Title
May 5 2011

Date

EXHIBIT B

PERFORMANCE AGREEMENT

This Performance Agreement ("Agreement") is made as of MAY 4, 2011, by and between Millari Madison (the "Customer") and Integrity Building Systems ("Integrity").

Background

Customer has ordered a modular building through Integrity's distributor, Convenient Installations, under CONTRACT FOR MODULAR # C-484709 attached hereto as Attachment A. Integrity is the builder of the modular units and wishes to stand behind and guarantee the performance under CONTRACT FOR MODULAR # C-484709 in order to provide the Customer assurance that modular units are manufactured, delivered and set on the foundation as provided in CONTRACT FOR MODULAR # C-484709.

Agreement

NOW THEREFORE, in consideration of the mutual promises and undertakings set forth herein, and for other good and valuable consideration, including the payments made to Convenient Installations under CONTRACT FOR MODULAR # C-484709, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Should Convenient Installations fail to materially perform any of its obligations under CONTRACT FOR MODULAR # C-484709, upon the reasonable request of the Customer, Integrity shall perform without additional charge to Customer, those obligations, including but limited to delivering and setting on the foundation the modular units and panels.

2. **LAW AND VENUE.** This Agreement, and any and all claims arising under this Agreement, shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard to its conflicts of law provisions. For the resolution of any and all disputes no matter their nature arising under this Agreement, the parties hereby consent to personal jurisdiction and venue in the state and federal courts sitting in Northern Virginia, including but not limited to courts sitting in Loudoun County, Fairfax County and Alexandria, Virginia.

3. **COUNTERPARTS.** This Agreement may be signed in any number of counterparts with the same effect as if the signature on each such counterpart were upon the same instrument, and a facsimile transmission or electronic delivery (e.g., .pdf) of a manual signature shall be deemed to be an original signature.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and delivered as of the date above.

Millari Madison

Integrity Building Systems

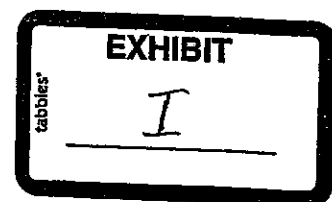
Millari Madison

By: [Signature]

... Martin Stickle

By: [Signature]

..... Glenn Salonen



Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

William C. Shelton
Director

February 25, 2013

Ms. Gina L. Schaecher
Kasimer & Annino, P.C.
Attorneys at Law
Tysons Office Park
7653 Leesburg Pike
Falls Church, VA 22043

Re: December 9, 2012 letter concerning consumer complaint
Milari Madison v. Integrity Building Systems

Dear Ms. Schaecher:

I have reviewed your December 9, 2012 letter, responding to my November 19, 2012 letter, to your client Mr. Richard R. Rowe Jr., Milton Home Systems, Inc. concerning the above referenced matter and offer the following comments.

My November 19, 2012 letter advised Mr. Rowe that there was a code violation in the home involving inadequate headroom in the stairway leading from the first to the second floor. As I understand your December 9, 2012 correspondence, Milton does not dispute that the headroom deficiency code violation exists but states that "it is unclear from your correspondence as to the cause of the headroom deficiency reported in your letter" and seeks additional information from this office.

E-mail correspondence from you to Vernon Hodge dated October 10, 2012 (copy attached) indicates that the stairs were built by Milton and were shipped loose with the home to be installed at the building site. Shipping the stairs with a home to be site installed is a common practice of modular manufacturers, and simply requires the site contractor to lift the stairs and fasten them to the factory framed opening of the module above. Our visual inspection of the stairs on April 9, 2012, which Milton's counsel at the time attended, did not reveal any signs of improper installation by the site contractor, such as stairs not positioned completely against a wall. Design and construction of the stairs and stairway opening are performed by the manufacturer. Therefore, with no apparent evidence of improper installation, by the site contractor, I directed my November 19, 2012 letter to

Milton, the manufacturer of the home, so that Milton can address this violation.

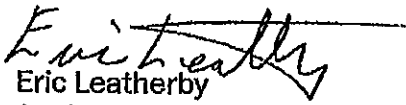
If Milton maintains that evidence of improper installation by the site contractor exists, please provide me with such evidence. If Milton maintains that further inspection of the stairs is necessary to determine whether they were improperly installed by the site contractor, please identify exactly what such further inspection would entail and what Milton believes such inspection could reveal.

Your December 9, 2012 correspondence also states "Ms. Madison has refused any offer of assistance with respect to the stairs to be installed between the first and second floor of the modular, and has prevented and precluded Integrity Building Systems, Inc. from taking any action to address and remedy any alleged violation with respect to these stairs". If we agree that Milton needs access to the home, this office is willing to relay your request and the purpose for such access to Ms. Madison so that appropriate arrangements can be made.

Please provide a response and any additional information within 30 days.

I can be reached at 804-371-7165 if you have any questions regarding this matter.

Sincerely,


Eric Leatherby
Sr. Construction Inspector II
State Building Codes Office

cc: Cindy Davis
Mike Melis
Milari Madison

Leatherby, Eric (DHCD)

From: Davis, Cindy (DHCD)
Sent: Wednesday, October 10, 2012 2:01 PM
To: Leatherby, Eric (DHCD)
Subject: Fw: Attic/thrid floor
Attachments: QA Checklist 1991B.PDF; QA Checklist 1991G.PDF

From: Gina Schaecher [mailto:gschaecher@kasannlaw.com]
Sent: Wednesday, October 10, 2012 01:29 PM
To: Hodge, Vernon (DHCD)
Cc: Hunter Madison <huntermadison2002@yahoo.com>; Davis, Cindy (DHCD); Thompson, Chris <Chris.Thompson@loudoun.gov>; mmellis@oag.state.va.us <mmellis@oag.state.va.us>; McMahan, Alan (DHCD)
Subject: RE: Attic/thrid floor

Mr. Hodge:

Attached please find the Integrity Building Systems, Inc.'s check list for the modular units purchased by Convenient Installations for Ms. Madison. As you will note, these documents provide that the stairs were not installed at the manufacturing plant, and were indeed shipped loose as indicated by the "S/L" notation on the item line for the stairs. Also, please note that the comments specifically provide, "stairs not installed." Please see pages QA30.1 for modular units 1991 B and 1991 G attached.

With respect to the attic area, we have not identified any document in which the attic is identified as habitable or occupiable space. All plans for the house indicate two stories, not three.

Consequently, it is Milton Home Systems, Inc.'s position that the stairs were shipped loose and not installed at the factory, and that all plans provide for a two story house, with no mention of use of the attic as habitable space.

Should you have any further questions, or require any additional information, please do not hesitate to contact us.

Respectfully,

Gina L. Schaecher
Counsel for Milton Home Systems, Inc.

Gina L. Schaecher, Esquire
Kasimer & Annino, P.C.
7653 Leesburg Pike
Falls Church, Virginia 22043
(703) 893-3914 - Phone
(703) 893-8944 - Fax
gschaecher@kasannlaw.com

Leesburg Area Office
39959 Catoclin Ridge Street
Paeonian Springs, VA 20129
(540) 882-4747

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged and confidential, the disclosure of which is prohibited under the applicable law.

Integrity Building Systems, Inc.
Modular Plant #1
Quality Assurance Checklist

Model: CVST Two Story Serial No: 1991 B

Start Date: Feb 11

PA Labeled Units:

All plans pertaining to this home contain the required statement regarding certification that this home is not a HUD Code Manufactured Home, but rather a modular home constructed in conformance with the applicable codes of the Commonwealth of Pennsylvania.

Approved By: N/A Date: 6/20/11

Station #1 ABCDE - Floors, plumbing

Task Description

Inspected

Infraction

- | | | |
|---|------------|-------|
| 1. Triple edge joists at mating wall--#2 or better | <u>CD</u> | _____ |
| 2. Double edge joists on exterior side wall--#3 or better | <u>CD</u> | _____ |
| *3. Edge joist fastened to transverse joists with-- | <u>CD</u> | _____ |
| (5)-16d nails on 2x10's | | _____ |
| (4)-16d nails on 2x8's | | _____ |
| (4)-16d nails edge to edge | | _____ |
| 4. 2x4 bridging on OJ2000 floor joist | <u>N/A</u> | _____ |
| 5. Proper hanger support and installation | <u>CD</u> | _____ |
| (per manu. installation instructions) | | _____ |
| 6. 19/32 or 23/32 OSB or plywood decking | <u>CD</u> | _____ |
| installed with 6d ring shank nails-- | | _____ |
| 10"oc Field and 6"oc Edges | | _____ |
| 7. 19/32 or 23/32 OSB or plywood decking end | <u>CD</u> | _____ |
| joints properly gapped 1/16" | | _____ |
| *8. Stairwell properly framed | <u>CD</u> | _____ |
| *9. Copper water lines run for HWBB | <u>N/A</u> | _____ |
| 10. Anti Scaud faucet on deck mount tubs (NJ) | <u>N/A</u> | _____ |
| 11. PEX Plumbing Fastening | <u>N/A</u> | _____ |
| *12. Copper tubing, PVC runs properly installed, | <u>N/A</u> | _____ |
| supported with proper slope on DWV | | _____ |
| *13. Insulation installed properly under floor area, | <u>N/A</u> | _____ |
| netting installed and secured to framing | | _____ |
| *14. Frame tub/shower drain area for infield | <u>N/A</u> | _____ |
| firestopping | | _____ |
| 15. Vertical support fasteners every 60" (piping) | <u>N/A</u> | _____ |
| 16. Horizontal support fasteners every 32" (piping) | <u>N/A</u> | _____ |
| 14. Trap(s) strapped at tub(s) first floor only | <u>N/A</u> | _____ |
| 15. Access panels cut in for vent lines and hot | <u>N/A</u> | _____ |
| water connections on 2 story units | | _____ |
| 16. Vinyl floor covering per order | <u>N/A</u> | _____ |
| 17. Tub/shower fixtures and color per order | <u>N/A</u> | _____ |
| 18. Registers (floor or wall) and returns per print | <u>N/A</u> | _____ |
| 19. Solid block bridging to joist each bay-- | <u>CD</u> | _____ |
| (3)-131x3" nails per end | | _____ |
| 20. Prep for 2 nd floor dryer vent | <u>N/A</u> | _____ |
| 21. Temporary steel floor brace (at box offset) | <u>N/A</u> | _____ |
| 22. Plumbing tree test 105PSI for 30 minutes min. | | _____ |
| (125 PSI for State of MA) | | _____ |

Sign-off on Testing Report Page

Comments: _____

Inspected by: [Signature] Date: 6/21/11

**Those items indicated with an asterik (*) and bold type are required to be visually inspected before concealment.

APPROVED BY
FEB 02 2010

NIA INC
MICHAEL A. FALLER

1991B

Integrity Building Systems, Inc.
Modular Plant #1
Quality Assurance Checklist

NIA INC.
MICHAEL A. FALLER

JUN 29 2010

Station #2 ABCD - Walls, roof, insulation, electricalTask DescriptionInspectedInfraction

- | | | |
|--|-----------|-----------------------|
| 1. Header & sill fastening & sizing - fasten multiple members with 15 Ga 7/16"x2 1/2"@ 5"oc stagger | <u>CD</u> | |
| 2. Correct number of column supports sidewall
Fasten multiple members w/ 15 Ga 7/16"x2 1/2"
2 1/2"oc or 4"oc | <u>CD</u> | |
| 3. Correct number of column supports marriage wall
(with 15 Ga 7/16"x2 1/2" @ 2 1/2" oc) | <u>CD</u> | |
| 4. Marriage wall fireblocking installed (wall hgt. over 10') | <u>NA</u> | |
| 5. Partition wall fireblocking installed (wall hgt. over 10') | <u>NA</u> | |
| 6. Exterior walls 16" oc or 24" oc | <u>CD</u> | |
| 7. Partition walls 16" oc or 24" oc | <u>CD</u> | |
| 8. Washer drain installed and supported | <u>NA</u> | |
| 9. Center wall beam sizing and securing | <u>CD</u> | |
| *10. Ceiling board fastening with foam
(rated assemblies fastened per listing) | <u>CD</u> | |
| 11. Compression strip | <u>CD</u> | |
| 12. Toe screw or use anchor straps to fasten trusses to sidewall | <u>NA</u> | |
| 13. Attic access | <u>NA</u> | |
| 14. Galvanized straps 1 1/4"x12"(26GA) for
marriage walls floor/ceiling fastening
16 Ga 1" staple 10 per STD & every other stud
NY - 110 & 120 STD every stud | <u>CD</u> | |
| 15. Wiring protectors installed (marriage wall) | <u>CD</u> | |
| 17. Wiring protectors installed (partitions) | <u>CD</u> | |
| *18. Wiring stapled to code in ceiling cavity | <u>CD</u> | |
| *19. Vent pipe pitched & strapped to code in cig.cav | <u>NA</u> | |
| 20. NM cable properly spaced and supported
in the marriage wall & side wall
(1 1/4" from edge of framing and 48"oc) | <u>CD</u> | |
| 21. NM cable properly spaced & supported in
partition walls (1 1/4" edge of framing & 48"oc) | <u>CD</u> | |
| 22. Skylights framed properly | <u>NA</u> | |
| 23. Firestopping of wire penetrations partitions | <u>CD</u> | |
| 24. Check integrity of NM cables | <u>CD</u> | |
| 25. Panel box location per print | <u>NA</u> | |
| 26. Carbon monoxide detector (NJ, NY, RI, and VT) | <u>CD</u> | |
| 27. Roof dormer openings per print | <u>NA</u> | |
| 28. 110 & 120 mph wind zone trusses endzone 1" 3
trusses from end HTS 16" tie down. | <u>NA</u> | |
| 29. 110 & 120 mph wind zone trusses
Intermediate zone LTS 16" tie down. | <u>NA</u> | |
| 28. Exterior steel doors shimmed down 1/4" | <u>NA</u> | |
| → 29. Stairs set correctly—max. 8 1/4" rise top and bottom
9" min. tread <u>NA</u> " to top of 2x4 from last tread. | <u>CD</u> | <u>*SEE COMMENTS</u> |
| → 30. Stairs set allowing for hardwood or cement board | <u>CD</u> | <u>STAIRS ARE S/L</u> |
| 31. Tack 2x8 ledger for marriage wall - 2 story only | <u>NA</u> | |
| 32. GFCI and AFCI applications provided | <u>CD</u> | |
| 33. Air barrier and Insulation Inspection per QA Manual
Appendix B Pages #1 thru #8. | <u>CD</u> | |

Comments: *STAIRS NOT INSTALLED AT THIS TIME - PROFT - CD

Inspected by: Christopher D. JonesDate: 1/30/11

Those items indicated with an asterisk (*) and bold type are required to be visually inspected before concealment.

Integrity Building Systems, Inc.
Modular Plant #1
Quality Assurance Checklist

Model: WEST Two Story Serial No: 1991 G
Start Date: 6/24/11

PA Labeled Units:

All plans pertaining to this home contain the required statement regarding certification that this home is not a HUD Code Manufactured Home, but rather a modular home constructed in conformance with the applicable codes of the Commonwealth of Pennsylvania.

Approved By: N/A Date: JUN 21 2011

Station #1 ABCDE - Floors, plumbing

Task Description

Inspected

Infraction

- | | | |
|--|------------|-------|
| 1. Triple edge joists at mating wall—#2 or better | <u>CAD</u> | _____ |
| 2. Double edge joists on exterior side wall—#3 or better | <u>CAD</u> | _____ |
| *3. Edge joist fastened to transverse joists with— | <u>CAD</u> | _____ |
| (5)-16d nails on 2x10's | | |
| (4)-16d nails on 2x8's | | |
| (4)-16d nails edge to edge | | |
| 4. 2x4 bridging on OJ2000 floor joist | <u>CAD</u> | _____ |
| 5. Proper hanger support and installation | <u>CAD</u> | _____ |
| (per manu. installation instructions) | | |
| 6. 19/32 or 23/32 OSB or plywood decking | <u>CAD</u> | _____ |
| installed with 6d ring shank nails— | | |
| 10"oc Field and 6"oc Edges | | |
| 7. 19/32 or 23/32 OSB or plywood decking and | <u>CAD</u> | _____ |
| joints properly gapped 1/16" | | |
| *8. Stairwell properly framed | <u>CAD</u> | _____ |
| *9. Copper water lines run for HWBB | <u>N/A</u> | _____ |
| 10. Anti Scald faucet on deck mount tubs (NJ) | <u>N/A</u> | _____ |
| 11. PEX Plumbing Fastening | <u>CAD</u> | _____ |
| *12. Copper tubing, PVC runs properly installed, | <u>CAD</u> | _____ |
| supported with proper slope on DWV | | |
| *13. Insulation installed properly under floor area, | <u>CAD</u> | _____ |
| netting installed and secured to framing | | |
| *14. Frame tub/shower drain area for infield | <u>N/A</u> | _____ |
| firestopping | | |
| 15. Vertical support fasteners every 60" (piping) | <u>CAD</u> | _____ |
| 16. Horizontal support fasteners every 32" (piping) | <u>CAD</u> | _____ |
| 14. Trap(s) snugged at tub(s) first floor only | <u>N/A</u> | _____ |
| 15. Access panels cut in for vent lines and hot | <u>N/A</u> | _____ |
| water connections on 2 story units | | |
| 16. Vinyl floor covering per order | <u>N/A</u> | _____ |
| 17. Tub/shower fixtures and color per order | <u>N/A</u> | _____ |
| 18. Registers (floor or wall) and returns per print | <u>N/A</u> | _____ |
| 19. Solid block bridging to joist each bay— | <u>CAD</u> | _____ |
| (3)-131x3" nails per end | | |
| 20. Prep for 2 nd floor dryer vent | <u>N/A</u> | _____ |
| 21. Temporary steel floor brace (at box offset) | <u>N/A</u> | _____ |
| 22. Plumbing tree test 105PSI for 30 minutes min. | | |
| (125 PSI for State of MA) | | |

Sign-off on Testing Report Page

Comments: _____

Inspected by: CAD

Date: 6/24/11

**Those items indicated with an asterisk (*) and bold type are required to be visually inspected before concealment.

APPROVED BY
FEB 02 2010

NIA INC
MICHAEL A. FALLER

1991 G

Integrity Building Systems, Inc.
 Modular Plant #1
 Quality Assurance Checklist

JUN 29 2010
NIA INC.
 MICHAEL A. FALLER

Station #2 ABCD - Walls, roof, insulation, electrical**Task Description****Inspected****Infraction**

- | | | |
|--|------------|---------------------------------|
| 1. Header & sill fastening & sizing - fasten multiple members with 15 Ga 7/16"x2 1/2" @ 5" oc stagger | <u>OK</u> | |
| 2. Correct number of column supports sidewall
Fasten multiple members w/ 15 Ga 7/16"x2 1/2" 2 1/2" oc or 4" oc | <u>OK</u> | |
| 3. Correct number of column supports marriage wall (with 15 Ga 7/16"x2 1/2" @ 2 1/2" oc) | <u>OK</u> | |
| 4. Marriage wall fireblocking installed (wall hgt. over 10') | <u>N/A</u> | |
| 5. Partition wall fireblocking installed (wall hgt. over 10') | <u>N/A</u> | |
| 6. Exterior walls 16" oc or 24" oc | <u>OK</u> | |
| 7. Partition walls 16" oc or 24" oc | <u>OK</u> | |
| 8. Washer drain installed and supported | <u>OK</u> | |
| 9. Center wall beam sizing and securing | <u>OK</u> | |
| *10. Ceiling board fastening with foam (rated assemblies fastened per listing) | <u>OK</u> | |
| 11. Compression strip | <u>OK</u> | |
| 12. Toe screw or use anchor straps to fasten trusses to sidewall | <u>OK</u> | |
| 13. Attic access | <u>N/A</u> | |
| 14. Galvanized straps 1 1/4"x12" (26GA) for marriage walls floor/ceiling fastening
16 Ga 1" staple 10 per STD & every other stud
NY - 110 & 120 STD every stud | <u>OK</u> | |
| 15. Wiring protectors installed (marriage wall) | <u>OK</u> | |
| 17. Wiring protectors installed (partitions) | <u>OK</u> | |
| *18. Wiring stapled to code in ceiling cavity | <u>OK</u> | |
| *19. Vent pipe pitched & strapped to code in clg.cav | <u>OK</u> | |
| 20. NM cable properly spaced and supported in the marriage wall & side wall (11/4" from edge of framing and 48" oc) | <u>OK</u> | |
| 21. NM cable properly spaced & supported in partition walls (11/4" edge of framing & 48" oc) | <u>OK</u> | |
| 22. Skylights framed properly | <u>N/A</u> | |
| 23. Firestopping of wire penetrations partitions | <u>OK</u> | |
| 24. Check integrity of NM cables | <u>OK</u> | |
| 25. Panel box location per print | <u>N/A</u> | |
| 26. Carbon monoxide detector (NJ, NY, RI, and VT) | <u>OK</u> | |
| 27. Roof dormer openings per print | <u>N/A</u> | |
| 28. 110 & 120 mph wind zone trusses endzone 1" 3 trusses from end HTS 16" tie down. | <u>N/A</u> | |
| 29. 110 & 120 mph wind zone trusses Intermediate zone LTS 16" tie down. | <u>N/A</u> | |
| 28. Exterior steel doors shimmed down 1/2" | <u>N/A</u> | |
| 29. Stairs set correctly—max. 8 1/4" rise top and bottom 9" min. tread " to top of 2x4 from last tread. | <u>OK</u> | <u>*SEE COMMENTS OK 7-15-11</u> |
| 30. Stairs set allowing for hardwood or cement board | <u>OK</u> | <u>*SEE COMMENTS OK 7-15-11</u> |
| 31. Tack 2x8 ledger for marriage wall - 3 story only | <u>N/A</u> | |
| 32. GFCI and AFCI applications provided | <u>OK</u> | |
| 33. Air barrier and Insulation Inspection per QA Manual Appendix B Pages #1 thru #8. | <u>OK</u> | |

Comments: *STAIRS NOT INSTALLED

Inspected by: Michael A. FallerDate: 6/29/11

Those items indicated with an asterik (*) and bold type are required to be visually inspected before concealment.

RB REES BROOME, PC

ATTORNEYS AT LAW

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February 20, 2013

VIA FACSIMILE (804) 786-2087
& ELECTRONIC TRANSMISSION,
MMELIS@OAG.STATE.VA.US.

Michael Melis
Assistant Attorney General
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219

Re: *Milari Madison v. Integrity Building Systems, Inc.*
Response to request for information regarding propriety of data plate
certifying 200 amp service

Dear Mr. Melis:

As you are aware, our firm represents Milton Home Systems, Inc.'s ("Milton") interests with respect to the above-noted matter. We write regarding an issue that Ms. Madison continues to raise with regard to the data plate on the modular units installed at Ms. Madison's property. Although Milton does not concede, and continues to contest, that any issue regarding the data plate is part of the appeal currently pending before the State Technical Review Board, we write in an effort to cooperate with the state agencies in an effort to clarify and correct the statements made by Ms. Madison regarding the data plate.

In Ms. Madison's earlier correspondence, Ms. Madison has alleged:

DCHD's "letter" is incorrect in its assumption that the house somehow was delivered with a "second 200 amp panel" that was "shipped loose" with the home. Although NTA certifies that the house's data plate is "correct" by stating the house has a 200 amp service, Milton shipped, built and wired the house for a 400 amp service, had both panels wired and had unlicensed staff endeavor to understand why the electric was not working.

(See Madison, September 5, 2012 correspondence).

JOEL M. BIRKEN*
JONATHAN J. BROOME, JR.
JOHN F. BOLAND*
JUAN R. CARDENAS
BRUCE E. TITUS*+
PETER S. PHILBIN+
WILLIAM P. DALY, JR.+
ANDREW B. GOLKOW*
SUSAN RICHARDS SALEN*+
MARK P. GRAHAM
TODD A. SINKINS*
MARK A. MOORSTEIN*
ROBERT J. CUNNINGHAM, JR.+
KIMBERLEY M. O'HALLORAN-PEREZ*+
DAVID J. CHARLES*
STEPHEN J. ANNINO*+
PATRICK M. VIA
JAMES M. LEWIS*
URSULA KOENIG BURGESS+
ANDREW N. FELICE*
JAMES M. REES (1941-1986)*

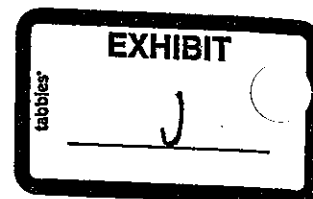
* ALSO ADMITTED IN DC
+ ALSO ADMITTED IN MARYLAND
* ALSO ADMITTED IN WEST VIRGINIA
* ALSO ADMITTED TO PATENT BAR

M. JOSEPH PIERCE*+
LESLIE S. BROWN*+
DOUGLAS S. LEVY*+
COURTNEY B. HARDEN
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ERIK W. FOX*
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MAUREEN E. CARR*+
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KATHLEEN N. MACHADO*
HILLARY ANNE COLLINS*+
ALISON R. MULLINS*+
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MARGUERITE L. SELTON+

OF COUNSEL
JOSEPH H. KASIMER*
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SENIOR COUNSEL
ROBERT W. WOOLDRIDGE, JR.

SENIOR MANAGING COUNSEL
RORY K. NUGENT



ATTORNEYS AT LAW
Michael Melis
Assistant Attorney General
Office of the Attorney General
Page 2

Ms. Madison's allegations simply are not accurate. The modular units that Ms. Madison purchased from Convenient Installations were ordered, designed, manufactured, and certified for 200 amp service. After Ms. Madison purchased the modular units, and the units were being manufactured, Ms. Madison contacted Integrity Building Systems, Inc. ("IBS") and notified IBS that she needed 400 amp service for what she proposed for the construction on site. In response to Ms. Madison's request, IBS shipped a second 200 amp panel box loose for installation at the site. Neither IBS nor NTA had knowledge of Ms. Madison's on site plan, or why Ms. Madison claimed that she needed the additional 200 amp panel. Consequently, as verified by the unit designs, the modular units were ordered, planned, designed, and manufactured for 200 amp service, as certified by NTA. In response to Ms. Madison's directive, a second 200 amp panel was shipped loose to be installed on site in accordance with Ms. Madison's direction.

As we have previously explained, IBS was the manufacturer of the modular units. Ms. Madison purchased the modular units from Convenient Installations. Convenient Installations' contract provided only for the delivery and set of the units, and Ms. Madison was responsible for the completion of the modular units and all other aspects of the construction. Please see the Contract for Modular # C-484709 between Convenient Installations and Ms. Madison. ("Contractor [Convenient Installations] is only responsible for the delivery and set of the units and customer [Madison] is responsible for completion of modular after set.") The onsite work, other than the initial set of the modular units, was and remains Ms. Madison's responsibility.

Similarly, pursuant to the Performance Agreement between Ms. Madison and IBS, IBS' performance was limited to only the delivery and set of the units, and only in the case if Convenient Installations failed to perform these limited responsibilities. IBS did not agree to, nor assume any obligation for, onsite work other than the setting of the units on the foundation. Again, as stated above, Ms. Madison was and remains responsible for all other onsite work.

In summary, IBS provided 200 amp service as ordered by Convenient Installations, designed, manufactured and ultimately purchased by Ms. Madison. NTA certified the units for 200 amp service, and the data plate is correct. It was Ms. Madison's subsequent and undisclosed plan for the onsite construction that apparently gave rise for the need for another 200 amp panel. The second 200 amp panel was shipped loose to accommodate Ms. Madison's request.

RB REES BROOME, PC

ATTORNEYS AT LAW
Michael Melis
Assistant Attorney General
Office of the Attorney General
Page 3

We hope that the above information is helpful in clarifying this matter. However, should you have any further questions, or should this matter require discussion, please do not hesitate to contact us. In that regard, we are available to discuss this matter at your convenience.

Respectfully,



Gina L. Schaecher
Counsel for Milton Home Systems, Inc.

GLS:lrw

cc: Richard R. Rowe, Jr. (via electronic transmission)
Martin Sickle (via electronic transmission)
Kenneth Potter, Esquire (via electronic transmission)
Milari Madison (via electronic transmission)

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Additional Documents Submitted by Milton Home Systems

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February 25, 2013

VIA ELECTRONIC TRANSMISSION
ALLAN.MCMAHAN@DHCD.VIRGINIA.GOV
& FIRST CLASS U.S. MAIL

Alan McMahan
Commonwealth of Virginia
Department of Housing and
Community Development
State Building Code Technical Review Board
Main Street Centre
600 East Main Street, Suite 300
Richmond, VA 23219

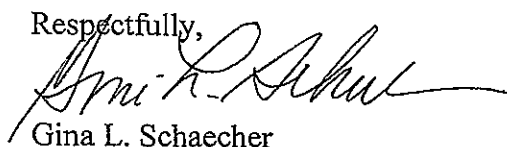
Re: *Appeal of Milari Madison to the Review Board*
Appeal No. 12-6

Dear Mr. McMahan:

In response to and in accordance with your January 30, 2013 correspondence regarding the above-noted matter, enclosed please find the original and one copy of Milton Home Systems, Inc.'s Response to Suggested Statement of Case History and Pertinent Facts. Please kindly include the enclosed in the package of materials which will be prepared for the Review Board members.

Thank you for your assistance in this matter. Should you have any questions or require any further information from us, please do not hesitate to contact our office.

Respectfully,



Gina L. Schaecher

Counsel for Milton Home Systems, Inc.

309

Alan McMahan
February 25, 2013
Page 2

GLS:lrw
Enclosures

cc: Milari Madison (*via electronic transmission and regular US mail*)
Michael Melis, Esq. (*via electronic transmission and regular US mail*)
Chris Thompson, (*via electronic transmission and regular US mail*)

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VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Milari Madison
Appeal No. 12-6

**MILTON HOME SYSTEMS, INC.'S RESPONSE TO SUGGESTED STATEMENT OF
CASE HISTORY AND PERTINENT FACTS**

Milton Home Systems, Inc. ("Milton") respectfully submits the following in response to the Suggested Statement of Case History and Pertinent Facts submitted for review in the above-noted appeal. Milton respectfully submits that the above-noted appeal is moot, and therefore, there is no present case or controversy ripe for review. Consequently, the Review Board is without jurisdiction and/or authority to act as there is no issue of present controversy presently before the Review Board for hearing and determination.

Pursuant to Ms. Madison's Application for Administrative Appeal, Ms. Madison seeks the appeal of the August 20, 2012 determination that Integrity Building Systems, Inc. was no longer in business and that a new unrelated entity by the name of Milton Home Systems, Inc. could not be cited as the manufacturer of the modular units that Ms. Madison purchased. (See Cindy L. Davis' August 20, 2012 letter). As was explained at the two informal fact finding conferences, Integrity Building Systems, Inc. changed its name to Milton Home Systems, Inc. This fact was acknowledged by Eric Leatherby, Senior Construction Inspector II, Commonwealth Department of Housing and Community Development, in his November 19, 2012 letter to Milton Home Systems, Inc. A true and correct copy of Mr. Leatherby's November 19, 2012 letter is attached hereto and incorporated herein by reference as Exhibit 1. Milton has acknowledged Mr. Leatherby's November 19th letter and responded. A true and correct copy of Milton's December 9, 2012 responsive correspondence is attached hereto and incorporated herein

by reference as Exhibit 2. Consequently, Milton has been recognized as the successor by name change to Integrity Building Systems, Inc. and an alleged violation regarding headroom to a stairway is in the process of being investigated by Mr. Leatherby's office. As this investigation remains outstanding and no determination has been rendered as to any alleged violation, there is nothing left for Ms. Madison to appeal. The subject of Ms. Madison's September 5, 2012 appeal is moot, and there is no present controversy before this Review Board for determination.

Therefore, Milton respectfully submits that the above-noted appeal should be dismissed as moot without further hearing by this Review Board.

In the alternative, should this Review Board determine that Ms. Madison's appeal is not moot and that this Board has authority to conduct further proceedings with regard to the instant appeal, a point that Milton does not concede and vehemently contests, Milton submits the following corrections, objections, clarifications and/or responses to the Review Board Staff Document Suggested Statement of Case History and Pertinent Facts (hereinafter referred to the "Suggested Statement").

1. Concerning the statements contained in paragraph 1 of the Suggested Statement, Milton states that Ms. Madison entered a contract with Darren McNutt doing business as Convenient Installation (hereinafter "Convenient Installations") for the purchase of modular units to be installed at Ms. Madison's property. A true and correct copy of Ms. Madison's contract with Mr. McNutt is attached to Exhibit 2, December 9, 2012 letter from Milton counsel, see attached Exhibit "A." Milton further states that Ms. Madison entered a performance agreement with Integrity Building Systems, Inc. limited to the delivery and setting of the modular units and panels that Ms. Madison purchased from Convenient Installations. A true and correct copy of the performance agreement between Ms. Madison and Integrity Building Systems, Inc. is

attached to Exhibit 2, December 9, 2012 letter from Milton counsel, see attached Exhibit "B."

Milton denies any and all other allegations or statements contained in paragraph 1 of the Suggested Statement.

2. Concerning the statements contained in paragraph 2 of the Suggested Statement, Milton states that the dates of delivery and setting of the modular units were negotiated between Convenient Installations and Ms. Madison, that based upon information and belief, Ms. Madison is the owner of real property located at 40153 Janney Street, Waterford, Virginia, and that the modular units were to be installed at such site. Milton further states that it is without sufficient knowledge and information to admit or deny any and all other allegations or statements contained in paragraph 2 of the Suggested Statement and therefore denies the same.

3. Concerning the statements contained in paragraph 3 of the Suggested Statement, Milton states that it is without sufficient knowledge or information to admit or deny the allegations and statements contained therein and there denies the same.

4. Concerning the statements contained in paragraph 4 of the Suggested Statement, Milton states that it is without sufficient knowledge and information to admit or deny the allegations and statements contained therein and therefore denies the same.

5. Concerning the allegations contained in paragraph 5 of the Suggested Statement, Milton states that on or about February 10, 2012, Milton sent Ms. Madison a letter in which Milton advised that Milton Home Systems, Inc. was the successor by name change to Integrity Building Systems, Inc., that Milton did engage in negotiations with Ms. Madison in early 2012 to address and resolve issues that Ms. Madison alleged with regard to the modular units that Ms. Madison purchased from Convenient Installations and the work performed by others at Ms. Madison's property, that the SBCO met with Ms. Madison and representatives of Milton and the

County building department in an effort to address and resolve Ms. Madison's concerns, and that Milton is without sufficient knowledge and information to admit or deny any and all other allegations contained in paragraph 5 of the Suggested Statement and therefore denies the same.

6. Concerning the allegations and statements contained in paragraph 6 of the Suggested Statement, Milton states that it has been provided with a copy of a letter dated August 20, 2012 from Cindy Davis, State Building Codes Director, Commonwealth of Virginia Department of Housing and Community Development to Milari Madison, that said letter speaks for itself, and that Milton is without sufficient knowledge and information to admit or deny any and all other allegations and statements contained in paragraph 6 of the Suggested Statement and therefore denies the same.

7. Concerning the allegations and statements contained in paragraph 7 of the Suggested Statement, Milton states that it was provided a copy of an appeal filed by Ms. Madison, that Ms. Madison's appeal provides that she is appealing the determination contained in Cindy L. Davis' August 20, 2012 letter that Integrity Building Systems, Inc. is no longer in business and that no action could be taken against Milton, that said appeal speaks for itself and is the best evidence, and that Milton is without sufficient knowledge and information to admit or deny any and all other allegations or statements contained in paragraph 7 of the Suggested Statement and therefore denies the same.

8. Concerning the allegations and statements contained in paragraph 8 of the Suggested Statement, Milton states that it participated in an informal fact finding conference on or about September 2012, that the conference was attended by Ms. Madison, the SBCO, Milton and its legal counsel and the County building department and that the statements contained in paragraph 8 appear to accurately summarize some of the items discussed at the informal fact

finding conference but that minutes of the September 2012 conference and/or a transcript has not been provided. Milton further states that although Ms. Madison attempted to discuss and raise various new and previously unidentified issues, that such issues were not, and cannot be the subject of this appeal or any appeal as there has been no determination on any such issue to be appealed. Milton states and maintains that the only issue properly before the Review Board Staff was whether Milton was the successor by name change to Integrity Building Systems, Inc. and whether Milton as such could be charged with any violation as to the manufacture of the modular units which comprised the modular house on Ms. Madison's property. Milton further states that the issues raised by Ms. Madison's appeal are moot, and the appeal should be dismissed.

9. Concerning the allegations and statements contained in paragraph 9 of the Suggested Statement, Milton states that Ms. Madison continued to raise unsubstantiated contentions against Milton and NTA that were not before the Review Board Staff or the SBCO or the County building department for consideration, review or determination. For example, any allegation or documentation that Ms. Madison contends demonstrates that the modular home is three stories, instead of two stories with an attic contrary to the drawings for Ms. Madison's modular home, was not an issue on appeal and was not properly before the Review Board Staff or the Review Board. As such, Milton has not responded to such allegations other than to provide a brief statement in response to the Review Board Staff's questions. Such has been provided as a courtesy in an effort to resolve this matter. However, Milton maintains that such matters are not a part of, and are beyond the issues which are properly before the Review Board on appeal.

10. Concerning the allegations and statements contained in paragraph 10 of the Suggested Statement, Milton states that the "additional issues" that were identified were the

result of Ms. Madison's unsolicited, relentless and continued unauthorized communications with the Review Board Staff that were beyond the issues of the appeal and were not properly before the Review Board Staff or before this Review Board, and as such were the unsubstantiated allegations of Ms. Madison that had not been subject to the determination of any state official with the requisite authority over the manufacture and construction of modular homes. Milton further states that on or about December 6, 2012, Milton received a copy of Eric Leatherby's November 19, 2012 letter to Richard Rowe, a true and correct copy of which is attached hereto and incorporated herein as Exhibit 1. In Mr. Leatherby's correspondence, the SBCO acknowledged that Integrity Home Systems, Inc. changed its name to Milton Home Systems, Inc. and as such the SBCO asked Milton to respond to the complaint that there was inadequate headroom as to one of the stairways in Ms. Madison's house, but that it was Mr. Leatherby's understanding that the other stairway between the second floor and the attic had been removed and that a code compliant stairway was in the process of being installed. Consequently, the SBCO identified a possible violation to Milton and asked Milton to respond. On December 9, 2012, Milton responded to Mr. Leatherby's correspondence, and a true and correct copy of Milton's December 9, 2012 letter is attached hereto and incorporated herein by reference as Exhibit 2.

11. Concerning the allegations and statements contained in paragraph 11 of the Suggested Statement, Milton states that it was present during the second informal fact finding conference and that paragraph 11 contains a summary as to some of the statement and events at the informal fact finding conference but that minutes and/or a transcript of the conference has not been provided. Milton further states and maintains that Mr. Leatherby's November 19, 2012 letter in which the SBCO acknowledges that Integrity Building Systems, Inc. changed its name

to Milton Home Systems, Inc. and that the SBCO requests Milton's response to a possible violation addresses and resolves all the issues contained in Ms. Madison's current appeal, and as such there remains no present legal or factual controversy pending for the Review Board's determination, and that as such Ms. Madison's appeal should be dismissed as moot. Milton further states and submits that any and all issues attempted to be raised by Ms. Madison beyond or otherwise not contained in her September 5, 2012 appeal of Ms. Cindy Davis' August 20, 2012 were not properly before the Review Board Staff and are not part of, or properly raised as part of the current appeal.

12. Concerning the allegations and statements contained in paragraph 12 of the Suggested Statement, Milton states that it is without sufficient knowledge and information to admit or deny the allegations contained therein and therefore denies the same.

13. Concerning the allegations and statements contained in paragraph 13 of the Suggested Statement, Milton states that any and all statements, contentions or issues that Ms. Madison has attempted to raise outside of her September 5, 2012 appeal of Ms. Cindy Davis' August 20, 2012 are not properly before the Review Board Staff or the Review Board and are not properly part of the instant appeal and as such cannot be the subject of the Review Board's consideration or determination.

14. Concerning the allegations and statements contained in paragraph 14 of the Suggested Statement, Milton states that Ms. Madison's failure to withdraw her appeal does not remedy the fact that Ms. Madison's appeal is moot and that there is no current determination in dispute for this Review Board's consideration, review and decision. Any and all issues beyond Ms. Madison's September 5, 2012 appeal of Ms. Cindy Davis' August 20, 2012 determination that Integrity Building Systems, Inc. was not Milton Home Systems, Inc. are not properly before

this Review Board and not subject to review, consideration and determination. Milton further states that Ms. Madison's appeal is moot as the SBCO's November 19, 2012 remedied any and all issues raised by Ms. Madison in her September 5, 2012 appeal.

15. Milton states that any and all statements and/or allegations not expressly admitted herein are denied.

16. For purposes of clarification, Milton further states that it has made offers to Ms. Madison to repair and address any issues that she had with the stairways in Ms. Madison's modular home, regardless of whether such was Milton's responsibility in an effort to resolve any and all differences with Ms. Madison, but Ms. Madison has rejected any and all of Milton's proposals to address issues that Ms. Madison claims exist with regard to the stairways. Furthermore, Milton sent its representatives and counsel to meet with Ms. Madison at her property to observe the issues that she claimed were defective with regard to the modular construction. Although it has been, and remains Milton's position that the alleged defects and deficiencies of which Ms. Madison complains are the result of site work performed by Ms. Madison's forces and not the responsibility of Milton, Milton did offer to provide labor and materials to address some of the issues that Ms. Madison identified with respect to the modular construction, or in the alternative, a cash payment to resolve any and all disputes with Ms. Madison. Ms. Madison has flatly rejected Milton's proposals. Furthermore, Ms. Madison has initiated litigation against Milton. Milton does not have access to the house that Ms. Madison constructed and has not been afforded an opportunity to review, inspect, assess and/or evaluate the conditions of which Ms. Madison continues to complain.

17. With respect to the Suggested Issues for Resolution by the Review Board contained in the Suggested Statement, Milton states:

a. The SBCO's November 19, 2012 letter renders Ms. Madison's September 5, 2012 appeal moot, and that the instant appeal should be dismissed as such without further hearings by the Review Board Staff and/or the Review Board;

b. The issue of the propriety of the data plate is not properly before this Review Board as such was not the basis of any determination by any entity from which Ms. Madison is entitled the right of appeal;

c. The only issue properly before this Review Board based upon Ms. Madison's September 5, 2012 appeal is whether Integrity Building Systems, Inc. changed its name to Milton Home Systems, Inc. and whether the state can issue any violation to Milton Home Systems, Inc. as the manufacturer of modular units. However, said issue was rendered moot by the SBCO's November 19, 2012 correspondence. Consequently, Milton maintains that there are no current factual or legal issues in controversy, properly before the Review Board, and as such there is no basis for this Review Board to exercise its authority.

WHEREFORE, for all the reasons stated herein, Milton respectfully requests that the current appeal be dismissed as moot without further proceedings.

MILTON HOME SYSTEMS, INC.

By Counsel:

REES BROOME, P.C.



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gschaecher@reesbroome.com

1900 Gallows Road, Suite 700
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(703) 790-1911 - Telephone
(703) 848-2530 - Facsimile
Counsel for Milton Home Systems, Inc.

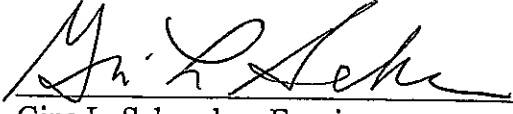
CERTIFICATE OF SERVICE

The undersigned certifies that on this 25th day of February, 2013, a true and correct copy of Milton Home Systems, Inc.'s Response to Suggested Statement of Case History and Pertinent Facts was served on the following via electronic transmission and first-class, U.S. mail, postage prepaid:

Milari Madison
40153 Janney Street
Post Office Box 302
Waterford, Virginia 20197
huntermadison2002@yahoo.com

Michael Melis, Esq.
Assistant Attorney General
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219
mmelis@oag.state.va.us
Counsel for State Building Codes Office
Virginia Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, Virginia 23219

Chris Thompson
Loudoun County Code Enforcement Division
1 Harrison St. SE Mailstop #60b
P.O. Box 7000
Leesburg, Virginia 20177
chis.thompson@loudoun.gov


Gina L. Schaecher, Esquire

K:\9090376\Milton Home Systems\Madison. Milari\Technical Review Board Administrative Proceedings\Milton Response to Suggested Statement of Case History and Pertinent Facts.doc

EXHIBIT 1



Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

William C. Shelton
Director

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

November 19, 2012

Mr. Richard R. Rowe Jr.
Milton Home Systems, Inc.
2435 Housels Run Road
Milton, PA 17847

RE: Consumer complaint – Milari Madison vs Integrity Building Systems, Inc.
Industrialized Building Serial #01-0611 A thru I

Dear Mr. Rowe,

The Virginia State Building Codes Office has been designated by the Department of Housing and Community Development to enforce the Virginia Industrialized Building Safety Regulations and acts as the building official for Virginia registered industrialized buildings.

This office received a complaint from the above referenced consumer regarding potential building code violations that may have been introduced into her home during construction by Integrity Building Systems, Inc.

The above referenced home located at 40153 Janney street, Waterford, VA was constructed by Integrity Building Systems, Inc. on July 14, 2011, (see attached data plate).

Correspondence from the law firm Rudnitsky & Hackman, L.L.P. dated February 10, 2012, states that Milton Home Systems, Inc. is "successor by name change to Integrity Building Systems, Inc." Information from the Pennsylvania Department of State confirms that Integrity Building Systems, Inc. was incorporated on April 22, 1999, and filed Articles of Amendment on November 16, 2011, changing its name to Milton Home Systems, Inc. effective November 17, 2011.

A site inspection of the home constructed by Integrity Building Systems, Inc., now known as Milton Home Systems, Inc., was conducted by this office on April 9, 2012 and the following violations to the 2009 edition of the Virginia Residential Code (VRC) were observed:

Partners for Better Communities



www.dhcd.virginia.gov

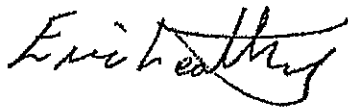
- Section R311.7.2 of the VRC requires that the minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches. It was observed that the headroom in the stairway leading from the first floor to the second floor was 6 feet 4 inches measured vertically from the sloped line adjoining the tread to the stairway header. Additionally, the headroom in the stairway from the second floor to the third floor/attic was approximately 4 feet measured vertically from the tread to the stairway header.

It is my understanding from discussions with Mr. Christopher Thompson, Loudoun County Building Department, that the stairway from the second floor to the third floor/attic has been removed and that a code complying stairway is in the process of being installed.

Please investigate this complaint to determine the source of the problem and report your findings and plan of corrective action to this office within 20 days.

I can be reached at 804-371-7165 if you have any questions regarding this matter.

Sincerely,



Eric Leatherby
Sr. Construction Inspector II

cc: Milari Madison
Christopher Thompson

INTEGRITY BUILDING SYSTEMS, INC.
235 HOUSES RUN ROAD
MILFORD, PA 17847

VIRGINIA MODULAR DATA SHEET

Modular Home Model C-481708-2

State Label No. (a) VA 2011-0895 thru
VA 2011-0703

See label location as noted on approved plans.

Modular Home Serial # 018611-1991A thru 1

Date of Manufacture 7/14/2011

NTA, Inc. Label No. (s) P2-336766 thru 336774

ELECTRICAL

Concealed Wiring Consists of Nonmetallic Sheathed Cable or Service Entrance Cable
Service panel: 200 amp; 120/240 V, single phase, 3 wire, 60 hertz/1c

FACTORY INSTALLED APPLIANCES:

	MANUFACTURER	MODEL
Hot Water Baseboard	n/a	
Refrigerator	n/a	EL42
Range	n/a	
Water Heater	n/a	
Dishwasher	n/a	
Stove	n/a	
Microwave	n/a	
Air Conditioner	n/a	
Ventless Fireplace	Mohrcohen	GUF38 R

DESIGN CONDITIONS

Building Area	3,799	SQ FT
Roof Live Load	30	PSF
Roof Dead Load	10	PSF
Use Group	R6	
Construction Type	VB	
Ground Snow Load	30	PSF

Distance to Lot Line	n/a	FT (Min)
Wind Zone / Exp. Cat	B	MPH
Seismic Zone	B	
Building Height	2	STORY
Floor Live Load	40/30	PSF
Floor Dead Load	10	PSF

CODE COMPLIANCE

- This unit is constructed in accordance with the following Virginia State codes,
1. ICC International Building Code 2009 Edition
 2. ICC International Plumbing Code 2009 Edition
 3. ICC International Mechanical Code 2009 Edition
 4. NFPA 70 National Electrical Code 2008 Edition
 5. ICC International Residential Code 2009 Edition
 6. ICC International Energy Conservation Code 2009 Edition
- Partial installation of sprinkler system at manufacturing facility with completion onsite by others.
Complete sprinkler system installed onsite by others.

HEATING

Heating System:

Indoor Air Temperature:

Outdoor Air Temperature:

Thermal Transmittance Values:		Revalues
on-site	Uo Floor	19 Floor
0.055	Uo Wall	19 Wall
0.033	Uo Roof	19 Roof

ITEMS SUBJECT TO LOCAL INSPECTION

ELECTRICAL

1. Interconnection between modules.
2. Service entrance entrance and grounding electrode conductors.
3. Fire warning equipment is to be installed and tested for proper operation - see equipment instructions.

PLUMBING

1. All piping below first floor.
2. Witness leakage test of gas, DWV and water supply systems.
3. Connection to gas, sewer and water utilities.
4. Sprinkler system when required by local jurisdictions.

HEATING

1. Complete forced air system.

STRUCTURAL

1. The design and construction of the foundation system.
2. Completion of exterior siding at end walls.
3. Installation of gable or ridge vents.
4. Floor insulation installation.
5. Connection of floor system (see Installation Instructions).
6. Connection of roof system (see Installation Instructions).
7. Connection of modules to foundation (see Installation Instructions).

04/06/12
REV 01

317

EXHIBIT 2

KASIMER & ANNINO, P.C.

TYSONS OFFICE PARK

7653 LEEBSBURG PIKE

FALLS CHURCH, VIRGINIA 22043

(703) 893-3914

FACSIMILE (703) 893-6944

LEESBURG AREA OFFICE:

39959 CATOCTIN RIDGE ST.

3RD FLOOR

PABONIAN SPRINGS, VA 20129

540-882-4747

WEB ADDRESS:

www.kasannlaw.com

REPLY TO: TYSONS OFFICE

GINA L. SCHAECHER

gschaecher@kasannlaw.com

December 9, 2012

**VIA FACSIMILE (804) 371-7090
& FIRST CLASS U.S. MAIL**

Mr. Eric Leatherby
Senior Construction Inspector II
Commonwealth of Virginia
Department of Housing and
Community Development
Main Street Centre
600 East Main Street, Suite 300
Richmond, Virginia 23219

**Re: November 19, 2012 letter concerning consumer complaint
Milari Madison v. Integrity Building Systems, Inc.**

Dear Mr. Leatherby:

This firm represents Milton Home Systems, Inc.'s interests with respect to the above-noted matter. Your November 19, 2012 letter was forwarded to our attention by Assistant Attorney General Michael Melis on December 6, 2012. We understand that the letter was returned to your office as undeliverable due to an incorrect address for Milton Home Systems, Inc. Consequently, we were unaware of your November 19th correspondence until December 6th, and therefore unable to respond to you any earlier than today. However, we can assure you that once we received a copy of your letter we immediately consulted with our client and made every effort to prepare a complete and timely response.

The information provided below is in response to the matters raised in your November 19, 2012 correspondence. With regard to the modular home located at 40153 Janney Street, Waterford, Virginia, Integrity Building Systems, Inc. manufactured modular units which were ordered by Darren McNutt doing business as Convenient Installations. Mr. McNutt entered into a contract with Milari Madison in which Mr. McNutt agreed to sell, deliver and set modular units purchased by Ms. Madison on Ms. Madison's property. A true and correct copy of Mr. McNutt's contract with Ms. Madison is attached hereto and incorporated herein by reference as Exhibit "A." As clearly stated in Mr. McNutt's contract, Mr. McNutt is only responsible for the delivery and set of the units and customer, referring to Ms. Madison, is responsible for the modular after the set. See Exhibit "A" at p. 1.

Mr. Eric Leatherby
Department of Housing and
Community Development
December 10, 2012
Page 2

In order to assure the delivery and set of the modular units, Integrity Building Systems, Inc. agreed to deliver and set the modular units should Mr. McNutt, Convenient Installations, fail to complete delivery or installation of the units at Ms. Madison's property. A true and correct copy of Integrity Building Systems, Inc.'s Performance Agreement with Ms. Madison is attached hereto and incorporated herein by reference as Exhibit "B." As clearly stated in Integrity Building Systems, Inc.'s Performance Agreement, should Convenient Installations fail to perform its obligations under its contract with Ms. Madison, Integrity Building Systems, Inc. shall perform the limited obligations of delivering and setting the modular units at Ms. Madison's property. Integrity Building Systems, Inc. agreed to deliver and set only if Mr. McNutt and Convenient Installations failed to perform these, and only these obligations.

Since the time that the modular units were delivered and set at Ms. Madison's property, Ms. Madison has raised various and sundry complaints about the build out of the modular units, complaints that do not concern the delivery or set of the modular units at Ms. Madison's property. Consequently, Integrity Building Systems, Inc. was not aware of any obligation or responsibility to take any action in response to Ms. Madison's complaints concerning work that was to be done by others after the modular units were set at Ms. Madison's property.

Although not obligated to do so, in an effort to resolve and settle any and all issues with Ms. Madison, Integrity Building Systems, Inc. had offered to address the items that Ms. Madison maintained were somehow problematic; however, every and all efforts offered by Integrity Building Systems, Inc., including but not limited to the payment for remedial work, were rejected, refused and prohibited by Ms. Madison. Specifically, Ms. Madison has refused any offer of assistance with respect to the stairs to be installed between the first and second floor of the modular, and has prevented and precluded Integrity Building Systems, Inc. from taking any action to address and remedy any alleged violation with respect to these stairs. Instead, Ms. Madison has filed a legal action against Milton Home Systems, Inc. seeking a full refund of the purchase price for the modular units.

As we explained at the initial informal fact finding conference, Integrity Building Systems, Inc. did indeed change its name to Milton Home Systems, Inc., and Ms. Madison has filed a civil action against Milton Home Systems, Inc. Consequently, to the extent that there was anything that Milton Home Systems, Inc. was obligated to do in order to address the alleged violation stated in your November 19, 2012 letter, we submit that Ms. Madison will not allow and will actively prevent any remedial action.

With respect to the violation identified in your letter, Milton would require additional information in order to fully and completely respond as it is unclear from your correspondence as to the cause of the headroom deficiency reported in your letter.

Mr. Eric Leatherby
Department of Housing and
Community Development
December 10, 2012
Page 3

Typically, diminished headroom occurs when the stairs are not properly installed such that the stairs are not positioned completely against the wall. The headroom at a staircase may also be impacted if the framing is not correctly installed. Without seeing the condition reported in your letter, Milton cannot comment on any cause our proposed remedy. In this regard, we do reiterate that Integrity Building Systems, Inc. was only the manufacturer of the modular units and was not the builder, nor was it responsible for the builder who attempted to install the stairs. Consequently, if this is an installation issue, which it appears to be, we respectfully submit that such installation issues were not within Integrity Building Systems, Inc.'s responsibility and therefore, are not Milton's responsibility.

If you maintain that the lack of headroom was a manufacturing issue, we request that you provide any and all such information that supports your position, including but not limited to any and all photographs or written statements, assessments, evaluations and/or reports identifying such as a manufacturing issue. If the lack of headroom does prove to be a manufacturing issue, Milton remains ready, willing and available to fully and completely address this matter and to remedy any violation that is determined to be a manufacturing issue.

To that regard, we are available to discuss this matter at your convenience. Otherwise, we ask that you kindly provide the requested clarification as to the cause of the diminished headroom described in your letter or that Milton otherwise be allowed to inspect the condition in order to fully and completely respond to your correspondence.

Respectfully,



Gina L. Schaecher
Counsel for Milton Home Systems, Inc.

GLS:lrw
Enclosures

cc: Richard R. Rowe, Jr. (via electronic transmission)
Martin Sickle (via electronic transmission)
Kenneth Potter, Esquire (via electronic transmission)
Michael Melis, Esquire (via electronic transmission)

EXHIBIT A

CONTRACT FOR MODULAR # C-484709

This is a contract for the sale, delivery, and set of a two story modular home.

Contractor: Convenient Installations Licensed and Insured
Darren McNutt
351 Thistle Ridge Ln.
Ranson WV 25422
WV D40199

Customer: Milani Madison
39618 Rickard Road
Waterford, VA 20180

Installation address: 40153 Janney Street, Waterford, VA 20197

1. DESCRIPTION OF MODULAR COMPONENTS

Contractor agrees that the modular manufactured by Integrity Building Systems will consist of the following: refer to plans C-484709 for the elevation, foundation, and house design and refer to the quote sheet for the pricing, base price, upgrades, and eliminations. Contractor is only responsible for the delivery and set of the units and customer is responsible for completion of modular after set.

2. PAYMENT

All payments are to be made by cashiers check or money wire to Convenient Installations. Buyer is responsible to pay 100% of total amount due to place the modular units into production. A \$4,500.00 prior payment has been subtracted from the total; making the final total \$254,849.00.

3. DELIVERY AND SET SCHEDULE

Modular units, the roof panels, panels, and items determined to loose ship per the plans shall be delivered within four to six weeks to 40153 Janney Street from the date of Customer's approval and/or receiving of the final prints and receipt of payment. Contractor is not responsible for the foundation or excavating. Contractor is responsible for the accurateness and completeness of the plans, C-484709, and for confirming that the foundation is sufficient for the house design. Contractor will provide all necessary equipment and resources to set all of the modular units and panels on the foundation and to fully tie the modular units to each other including the roof panels, and the panelized sunroom to the foundation in accordance with any applicable industry standards, code and the manufacturer's specifications, including but not limited to a crane and set crew to remove the units off of the transports and onto the foundation. After the units have been set upon the foundation the set crew will bolt the units together in the basement, will fasten the units to the sill plate, assemble any panelized roof sections, and the sunroom panels. Customer will provide Contractor with a backhoe or dozer if necessary with prior notice (24

hours) by Contractor. Contractor represents and warrants that he has analyzed the house site and location (40322 Janney Street, Waterford, Virginia 20197) and determined that the manufacturer will be able to deliver the modular units to the house site and that Contractor will be able to completely set and install the modular units and roof panels at the house site.

4. DELAY

If a reason beyond the control of the Contractor delays the house setting, Contractor will promptly inform the Customer. If a delay arises related to the Customer's responsibility, Customer will promptly notify the Contractor and an extension of delivery shall be provided for to adequately accommodate the delay.

If Contractor is unable to set the house by July 30, 2011, due to lack of performance, Customer may cancel this contract and receive a full refund of all payments made under the contract.

5. WARRANTIES AND LIMITATIONS

These modular units have a one year structural warranty from the date of delivery. Contractor will perform its obligations under this contract in a good and workmanlike manner and in accordance with best industry practices. THERE ARE NO OTHER WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS AGREEMENT.

6. GUARANTEE OF PERFORMANCE

In the event Contractor fails to timely perform under this contract, upon notice to Contractor if applicable, Customer may have Contractor's obligations under this contract satisfied by Integrity Building Systems.

7. LAW AND VENUE

This Agreement, and any and all claims arising under this Agreement, shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard to its conflicts of law provisions. For the adjudication of any and all disputes no matter their nature arising under this Agreement, the parties hereby consent to personal jurisdiction and venue in the state and federal courts sitting in Northern Virginia, including but not limited to courts sitting in Loudoun County, Fairfax County and Alexandria, Virginia.

8. CONFIDENTIAL INSTALLATION

Contractor agrees not to disclose or follow the instructions of any third parties or bystanders during the installation of the modular units. The Contractor understands that bystanders may attempt to disrupt and delay the installation and Contractor agrees not to engage in discussions with, and shall ignore those bystanders.

9. COUNTERPARTS

This Agreement may be signed in any number of counterparts with the same effect as if the signature on each such counterpart were upon the same instrument, and a facsimile

FROM: PHILIP SNOW

FAX NO. : 580 286 3545

May. 05 2011 10:39AM P1

May. 05. 2011 12:19 PM Madison

5408823160


PAGE. 3/ 4

transmission or electronic delivery (e.g., pdf) of a manual signature shall be deemed to be an original signature.

10 ENTIRE AGREEMENT

I have read and agree to the following contract.

Unless agreed to by both parties in writing, if there are any changes made after the signing of this contract this contract is null and void and Customer is entitled to a full refund of amounts paid under this contract.

CONTRACTOR

Authorized Signature
Darren McNitt
Print Name and Title
May 5 - 2011
Date

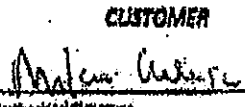
CUSTOMER

Authorized Signature
Melare Madison, owner
Print Name and Title
May 5 2011
Date

EXHIBIT B

PERFORMANCE AGREEMENT

This Performance Agreement ("Agreement") is made as of MAY 4, 2011, by and between Millari Madison (the "Customer") and Integrity Building Systems ("Integrity").

Background

Customer has ordered a modular building through Integrity's distributor, Convenient Installations, under CONTRACT FOR MODULAR # C-484709 attached hereto as Attachment A. Integrity is the builder of the modular units and wishes to stand behind and guarantee the performance under CONTRACT FOR MODULAR # C-484709 in order to provide the Customer assurances that modular units are manufactured, delivered and set on the foundation as provided in CONTRACT FOR MODULAR # C-484709.

Agreement

NOW THEREFORE, in consideration of the mutual promises and undertakings set forth herein, and for other good and valuable consideration, including the payments made to Convenient Installations under CONTRACT FOR MODULAR # C-484709, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Should Convenient Installations fail to materially perform any of its obligations under CONTRACT FOR MODULAR # C-484709, upon the reasonable request of the Customer, Integrity shall perform without additional charge to Customer, those obligations, including but limited to delivering and setting on the foundation the modular units and panels.

2. **LAW AND VENUE.** This Agreement, and any and all claims arising under this Agreement, shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard to its conflicts of law provisions. For the adjudication of any and all disputes no matter their nature arising under this Agreement, the parties hereby consent to personal jurisdiction and venue in the state and federal courts sitting in Northern Virginia, including but not limited to courts sitting in Loudoun County, Fairfax County and Alexandria, Virginia.

3. **COUNTERPARTS.** This Agreement may be signed in any number of counterparts with the same effect as if the signature on each such counterpart were upon the same instrument, and a facsimile transmission or electronic delivery (e.g., pdf) of a manual signature shall be deemed to be an original signature.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and delivered as of the date above.

Millari Madison

Integrity Building Systems

Millari Madison

By: Martin Sickle

... Martin Sickle

By: Glenn Salzman

... Glenn Salzman, Controller

.... Glenn Salzman

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